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COURSE OF

LECTURES ON THE BLOOD,

AND ON

THE CHANGES WHICH IT UNDERGOES DURING DISEASE,

Delivered at the College of France in 1837-8,

BY

M. MAGENDIE.

LECTURE III.

True method of studying medicine; disputes about nothing.—Pathology of typhus fever; effects mistaken for causes.—Constituents and properties of the blood; its power of passing through minute tubes; Ruysch's mode of injecting.—Lecanu's analysis of the blood.—Necessity of the presence of fibrine.—Pathology of rheumatism.—Use of acetate of ammonia.

GENTLEMEN:—The considerations into which we entered at our two former meetings, and the remarkable facts then brought forward, must, if I mistake not, justify in your minds the selection I have made of a subject for the year's course. I am not deceived as to the difficulty of our undertaking; I know that, on the one hand, our steps must be slow, simply from the novelty of our plan, and that we must, on the other, be prepared to contend against the ill will of those with whose favourite ideas our researches may interfere; but neither of these obstacles will deter us from prosecuting our inquiries. The facts we observe will be submitted to the examination of all, and we will steadily adhere to our old plan of attacking *things*, and making no allusion to *persons*.

I will never attempt to decide beforehand what shall be the results of a new experiment, unless it be to show the futility of such anticipations. I will affirm that alone, of which I can produce the incontestable proofs; for I had rather remain stationary for ever, with truth on my side, than advance a single step beyond the limits of reality. My aversion to every species of system is well known; consequently, you will not infer, from my drawing your attention, in a special manner, to the blood, that my object is to revive the system of humorism, and to enter the lists with the partisans of solidism. No, Gentlemen; yet I am far from despising the pages of medical history, wherein figure those obsolete dogmas. They will serve as salutary guides, by pointing out, when we incline to go astray, the limits that cannot be passed without falling into error. At a period when accurate ideas on physics were unknown, when chemistry did not exist, when the science of the equilibrium and movement of bodies had but just been thought of, and the study of human anatomy seems to have been, as it were, proscribed, Galen was certainly excusable, for adopting the doctrine of humorism, in his eagerness to explain everything. Much may well be pardoned in a man who, by his unaided efforts, caught a glimpse of one of the most brilliant discoveries of the seventeenth century, the circulation of the blood. At other periods, too, when a new species of inquiry disclosed the vast multiplicity of changes induced by disease in our organs, and in the texture of our tissues, the invention of solidism might be forgiven; but, in the present age, with its greatly increased scientific attainments, it would be worse than absurd to espouse either doctrine, although very respectable writers have supported, and still support, one or other of them.

Yet there are questions quite as absurd as those of humorism and solidism, agitated by the present race of medical men. Is it not truly distressing to witness the acrimony with which men dispute on the *essentiality of fevers*, on *the necessity of an organic change, existing or not, in all diseases*, for example? For my own part, I would not waste my time in taking part in such controversies. Is it not as clear as the day, Gentlemen, that to entitle us to decide on the essentiality, or non-essentiality, of a fever, we ought first to be acquainted with every phenomenon that takes place, from its outset to its close? But as such acquaintance is, in the present state of the science, utterly beyond our reach, it is impossible for us to discuss rationally and thoroughly the question alluded to. For an example of the

error into which people fell in this way, let us take the fever called typhoid. In this disease the mesenteric glands are found considerably enlarged, the intestinal mucous membrane, and especially the follicles, ulcerated, besides many other disorders. Well, they ascribe the malady to these lesions, but they are wrong. These are the *consequences* of the disease, the *anatomical proofs* that it has existed, but they are not its starting point; and it is manifest that with our present knowledge, and with the present mode of studying pathology, that starting point will never be discovered.

What is to be done, then, in this our state of ignorance? Must we stand calm spectators of the ravages of that fatal disease, and of the scenes of mourning and desolation it causes? No, Gentlemen, man has been granted plenary power over the lower animals. Among them there are some resembling him strongly in organisation and functions; and though I deplore the necessity to which we are reduced, the hope of benefitting our fellow-creatures justifies us in experimenting on those animals for the purpose of ascertaining, if possible, the origin and causes of our own disorders. We have already succeeded in producing in them symptoms and lesions precisely similar to those occuring in several human maladies; it is surely reasonable to hope that by perseverance we may be enabled to make out their intimate cause, and learn how to subvert its action.

This is the point of view in which disease should henceforth be studied at the bedside. Would that I could see both students and practitioners convinced of one great truth, namely, that the plan hitherto pursued in the study of medicine has been too narrow and confined ever to lead to those happy results that dignify an age, by improving the condition of humanity. Yes, I affirm, that a medical man, unused to guide his practice by the light derivable from chemistry and physics, and who has never made a study of the difficult art of performing experiments on the living animal,—and there are many such,—frequently sees in a series of patients nothing but so many individuals enduring more or less pain—the dying and the convalescent. The utmost limit to which his knowledge goes, scarcely enables him to point out among them those who will die and those who will recover. A crowd of phenomena, to which the sciences supply the key, escape him; for, as he does not dream of their existence, of course he does not endeavour to detect them.

So long as I live, Gentlemen, I will labour to expose the absurdity of a set of ideas, circulated, as it would seem, mainly to damp the spirit of inquiry natural to young and ardent minds. The baneful influence of the ideas to which I allude, on the advancement of our art, is notorious. People say, why should I trouble myself to seek the cause of this or that fact, when I can so conveniently explain it by a word? That word, I need hardly say, is *vitality*. True, they cannot define what they mean by this vitality, nor even prove its existence in many cases; but no matter, for all that, it affords materials for chapters without end, and it is infinitely more diverting to invent idle tales about physiology, than to devote one's time to difficult and laborious research. Young men who commence their medical career under the influence of such doctrines as these, learn, as the sum-total of their acquirements, to phrase a few prescriptions neatly, and enter into practice without a notion of the difficulty attending the serious study of medicine.

For my part, I declare loudly that I look on these ideas about vitality, and the rest of it, as nothing more than a cloak for ignorance and laziness; and the outcry raised against experimental inquiry, as the mere result of that hypocritical zeal, which invariably entrenches itself behind pretended considerations of morality and social order. You will, undoubtedly, agree with me, that he who desires to study to good purpose the science of Nature, ought not to be deterred by such arguments as those referred to, from pursuing the path of experiment.

Having thus *legitimised* our plan of study, we will continue our investigations on the subject with which we were engaged at our last meeting. We then established, as you will recollect, that an animal was a compound of solid and liquid parts variously combined. From the class of insects to that of crustacea, the fluids move in a particular manner, which is, as yet, far from being perfectly understood. When examined with the microscope these fluids are observed to hold in suspension certain solid corpuscula, which have been improperly termed *globules*; for that term suggests the idea of a round, globular body, whereas, as we shall see, they do not in general affect that form. Passing through the different stages of organisation, we arrive at the class mammalia; here we find the blood, properly so called, a liquid in which a considerable number of globules are seen to swim. If these globules are modified in their form or size, they lose the power of passing through the capillary vessels; the circulation, consequently, ceases in the various organs, and from its cessation spring the greatest disorders.

Here, then, is one of the properties of the blood; it is composed of a liquid holding globules of determinate form and dimensions in suspension. I only rapidly enumerate these facts now, for, as you are aware, I devoted several lectures to them in former courses.

There is a great difference between studying the blood during life, and while yet in its vessels, and when removed from those vessels; in the latter case we may ascertain, it is true, its different material properties, such as its specific weight, its degree of consistence, its smell, its colour, and the changes it undergoes from contact with the air, &c.; but the majority of its important qualities, those necessary for life, disappear the moment it ceases to circulate in its natural tubes.

When blood is drawn from a vein, or artery, of a living animal, and left to itself, a series of chemical, physical, and vital actions immediately commences; it forms into a mass, coagulates, and separates into two distinct parts,—one liquid, called the *serum*, the other red and solid, known as the *clot*. This phenomenon of coagulation is not usually observed during life; however, I met with a specimen of blood yesterday in a woman that had, probably, coagulated before death. Here is the uterus of the subject in question; you perceive, when I make an incision into it, that the cavities of its vessels are plugged with cylindrical masses of fibrine, while those of the neighbouring parts present no such phenomenon. It is rendered very probable, by a variety of circumstances, that this solidification took place during life; the evidence of this case, however, is far from sufficient to convince me of the possibility of coagulation occurring during life.

Before the discovery of the microscope, and the successive improvements effected in that valuable instrument, the notions entertained on the composition of the blood, and on its movement through the infinitely small vessels it is destined to traverse, were exceedingly rude; and even now, if we attempt to analyse mentally that marvellous circulation, it seems incomprehensible how it can take place through tubes of only the 1-80th or 1-100th of a millemètre in diameter. These vessels are called capillary, but the term is altogether deficient in exactness. Compared with such minute tubes a hair is a huge cylinder; the diameter of a hair bears about the same proportion to that of a capillary vessel, as the trunk of a tree does to the fibrils of its roots; but our wonder is increased when we set about trying to imitate this circulation. It is with the greatest difficulty we can succeed in making water, or any analogous fluid, pass through glass tubes of 1-10th of a millimètre in diameter; if we use tubes of a smaller calibre than this it becomes almost impossible to drive a liquid through them, no matter what force be employed; and we meet with similar resistance in injecting water into the mesenteric artery of a frog, with a view to force its passage into the continuous vein. The fluid employed is, in great part, extravasated into the surrounding tissues, and but a small quantity reaches the desired point.

These facts prove, that in its capability of passing through tubes of such minute size, under the influence of a slight force, the blood possesses a very remarkable property. I am aware that the phenomenon does not give physiologists the most trifling embarrassment,—they explain it with all imaginable facility by the all-efficient vitality. Gentlemen, we know the value of these deceptions; but, be that as it will, this is a point of view under which, so far as I am aware, the blood has not yet been studied, and which is every way worthy your attention. My inquiries, up to the present time, go to prove, that the passage of the blood, from the arterial to the venous capillaries, is effected by means of the nice adaptation of its physical properties to the physico-vital endowments of the vessels. The difficulty of succeeding well in our anatomical injections, confirms this view of the matter. Why is it that they so frequently fail? Simply, because the fluid used bears no relation, in its physical properties, to the tenuity of the tubes through which we wish to drive it. In all probability, the astonishing perfection of Ruysch's injections was owing to his having discovered a combination of substances, which had some analogy, in properties, with the blood, and could, consequently, freely traverse the capillary vessels of the various organs.

I cannot allow the opportunity to pass, without expressing my disapprobation of the narrow-minded selfishness evinced by the anatomist just named, in carrying his secret with him to the grave, after he had turned it to the best pecuniary account during his life. The loss is one much to be regretted. Who knows but that, had we been acquainted with the composition of the fluid he employed, we might have, under various circumstances, been enabled to modify the blood beneficially for our patients, to restore it some of the properties it might have lost, or given it new ones? I am persuaded, that, with our present improved knowledge, considerable advantages might have been obtained, had we been acquainted with the nature of its component ingredients.

But to return; I should now have to prove, in justification of the theory by which I proposed to account for the free circulation of the blood, through the most delicate tubes of the living animal, that if a single one of the properties of that fluid be modified, its movement through the capillary system becomes impossible. But, as this has been already done fully, as I have shown you the mechanism of the various local lesions, produced by changes in the properties of the blood, such as extravasations, œdema, engorgement, inflammation, I shall not stop longer on this point at present.

But here is an experiment confirmative of what I was saying a moment ago, that is worthy your attention. In this vessel you see some fluid blood, which contains the normal quantity of serum, of globules, and of various salts. In an excellent Thesis by M. Lecanu, the number of distinct substances in the blood is estimated at twenty-five; they are as follows:—

Free oxygen.
Nitrogen.
Carbonic acid.
Extractive.
Phosphuretted fat.
Cholesterine.
Seroline.
Free oxalic acid.
Margaric acid.
Hydrochlorate of potass.
——————— soda.
——————— ammonia.
Sulphate of potass.
Carbonate of soda.
——————— lime.
——————— magnesia.
Lactate of soda.
Fatty acid salt.
Yellow colouring matter.
Albumen.
Water.
Fibrine,
Hematosine, } The clot.
Albumen,
Globules.

Now, it is very possible that the number may be really still greater; but, counting according to this analysis, there are only twenty-four in the specimen I show you. The absence of one of its normal constituents is not perceptible by any untoward sign; the sample before you appears perfectly identical with the blood that circulates in the living animal. Yet, notwithstanding this apparent similarity, its properties are different; for, if I reintroduce it by a vein, it will at first pass through the large vessels, but, on reaching the capillary system, its progress will be arrested, the series of phenomena I have so often described will succeed, and the animal soon perish of the disorders induced by the stoppage of the capillary circulation. Now, nothing has been added to this blood; I have simply removed from it one of its elements,—an element, too, that at the utmost forms no more than from 1-1000 to 2-1000ths of its volume. That element is fibrine, which, while in the vessels, is liquid, but when removed from them becomes solid; and hence it is to its *fibrine* the blood owes the extraordinary property it possesses of passing through the capillary system.

But this is not the only important fact affecting the fibrine; indeed, were we to take this alone into account, we should fall into a very serious error. Let us suppose an animal whose blood contains fibrine, as well as all its other constituent parts, in the normal proportions. If I inject into the veins of such an animal any substance possessing the property of combining chemically, of forming salts with the fibrine, such as fibrinate of soda, potassa, or ammonia, that fibrine will lose its coagulability. The change in the characters of the fibrine affects the blood generally; it ceases to be coagulable, and the usual consequence ensues. You perceive, therefore, that the blood may contain its just proportion of fibrine, and yet be unfit for circulation.

Observe, I beg of you, Gentlemen, the fundamental point in the theory of the blood deducible from the facts just described,—it is, that in order to support life it must be coagulable; if it loses that property existence is threatened, and ceases within a short while; and this is precisely what occurs in the greater number of destructive epidemics. They are specially connected with certain modified conditions of the blood, that cause it to stagnate in the pulmonary vessels. Such was the state of things in the epidemic — the "*grippe*"—by which we were lately visited.

Now, even at the present stage of our acquaintance with the properties of the blood, we are enabled to take a different view from that ordinarily held concerning the nature and origin of *local* and *general* diseases. In the former case the blood becomes obstructed in the pulmonary capillaries, and a local lesion of those organs,—either apoplexy, hæmorrhage, or hepatisation—follows. In red hepatisation, however, the blood does not cease altogether to be coagulable; in fact, the compact, hard, resisting masses formed in the areolæ of the organ, during the course of pneumonia produced by any external cause, are nothing more than clots of blood. But in the *false pneumonia* of the "*grippe*," it is totally deprived of the property of solidifying, is effused into the parenchyma of the organs, and causes the blackish serous infiltrations met with in the victims of that epidemic.

But, let us admit that the altered circulating fluid has succeeded in getting through the pulmonary vessels; it passes to other organs, and in some of them, as, for example, in the intestinal mucous membrane, encounters capillary vessels of still greater tenuity than those of the lungs. The mechanical obstruction here produces redness and ulceration of the follicles; the organs of digestion lose their power of assimilation, and the whole economy suffers from the same shock. You will not, I trust, in the hope of discovering the source of these disorders, set to counting the number of capillary vessels obstructed, or measuring the number and dimensions of the ulcerations formed. No, you will treat with the proper neglect these ridiculous minutiæ; you will examine the blood, and, in its morbid changes, discover the cause of the disease.

Again, in acute rheumatism, as I once before explained to you, the painful parts become the seat of engorgement due to the stoppage and accumulation of the blood in its canals. The liquid stagnates, its temperature falls, and hence the sensation of cold felt by the patient, and which may, in some cases, be felt by a bystander on the application of the hand. The vulgar call this state a *cold*; medical men, an *inflammation*; and really, were I obliged to make a choice of one or other of these terms, I should prefer the former; for it expresses a fact, the latter only an hypothesis. But, whatever be the the relative correctness of the expressions, I have for a long time been in the habit of treating my rheumatic patients with acetate of ammonia; and here are the grounds of my practice. It has been shown by M. Béniqué, and others, that acetate of ammonia, when mixed with various liquids, facilitates their passage through minute tubes. Hence, as it appears to me, its admixture with the blood must produce a similar effect on the passage of that fluid through the capillary system. I know not whether my theory be a just one; perhaps I am wrong; but of this I am sure—and this is the most important point for patients—that recovery is quite as rapid under this mode of treatment as under various others, which exhaust the powers of the economy and prolong convalescence to an indefinite period. Further, of this also I can assure you, that I have never, either in my hospital or private practice, lost a single patient from acute rheumatism; and it is very remarkable that the patient himself, with a sort of enlightened instinct, surrounds the affected joints with flannel and other substances fitted to accumulate caloric in the parts, and even causes them to be gently rubbed to bring back the absent heat; the utility of these practices lies in their facilitating the capillary circulation.

All this is accurately true; nevertheless, did I assert it in too exclusive a manner, I should, in my turn, be guilty of an error. Nothing is so easy as to deceive oneself into the belief of the universal applicability of any important fact one may be fortunate enough to discover. Against such self-deception it is my duty to guard you. In the present instance I am far from maintaining that all diseases originate in altered conditions of the blood. Such an opinion would be grossly absurd. Our organs are liable to be influenced by a number of agents which directly modify, as it were, their texture. Thus, for example, intense cold causes the contraction of the pulmonary vesicles, and by this purely physical action the circulation is retarded, and may be temporarily stopped. It is not necessary for me to enumerate the series of phenomena that ensues.

On the other hand, if the temperature be too high the capacity of the vessels is increased, and not only is the circulation affected thereby, but the composition of the blood may be modified to such an extent as to produce affections analogous to those just alluded to. Here, then, are two phenomena, perfectly physical in their nature, to which a considerable number of local lesions are traceable.

Hence local diseases may originate either in an alteration of the blood, or of the tissues of the organs themselves. The distinction between these two sources of topical affections should never be lost sight of, especially in regulating the treatment.

There are other causes of local disorders wholly distinct from those I have mentioned. Thus, the chemical injuries effected in the stomach by the concentrated acids will never be confounded, by any one in his senses, with disorders induced by a morbid condition of the blood, no more than will the mischiefs caused by the violent drastics that certain individuals have the signal effrontery to extol as sovereign balms for every variety of complaint.

These cursory observations will suffice to show you that there certainly exist diseases brought on by a morbid condition of the fluids, as well as others by a primitive alteration of the solids; they will, besides, convince you that I am neither exclusively a humourist nor a solidist.

The causes that deprive the fibrine of the capability of clotting reside in the air, in miasmata, in our food and drink, and, in short, in every agent surrounding us that penetrates into the economy, no matter by what route. While engaged in investigating the nature of these causes, we will also study, in this point of view, the action of various medicines of which the frequent use may, as I conceive, entail serious evils. Among these medicines I will only, for the present, mention carbonate of soda, which is in common use as a reagent for the neutralisation of the uric acid occasionally deposited in the kidneys, ureters, and bladder. I am now thoroughly persuaded that, even in the case of urinary calculus, the use of this salt, if carried beyond certain limits, may become decidedly hurtful. I found my opinion on these reasons. My experiments have demonstrated the property possessed by this body of liquefying the blood, by combining with its fibrine. Now, I have not a doubt but that its long-continued medicinal use produces similar results on the blood, causes infiltration of the lungs, and acts, in short, so long as persisted in, as an inexhaustible source of pneumonia; at least, I am authorised in this belief by what occurred to a friend of mine, one of the most celebrated men of the present day. He has been compelled to give up taking the carbonate by a succession of pneumonic attacks, that followed each other while he was in the habit of employing it.

INTRODUCTORY LECTURE
OF
DR. BASHAM,
ON THE
STUDY OF THERAPEUTICS.

The science of therapeutics constitutes, perhaps, the most important branch of medical education, whether we regard its influence over the welfare of the patient, or the difficulty of acquiring a competent knowledge of it after the practitioner has succeeded in diagnosticating a disease. It has been said, that the task of treating it is easy; but this is a most erroneous opinion, as may be made evident by a little reflection. The operations of medicines upon the human frame, in the state of health and in the state of disease, form a distinct class of physiological facts, and an acquaintance with them cannot be obtained by any reasoning *à priori*. Accurate and patient observation, as well as cautious experiments, have been the only successful means of bringing them to light. How much labour, how much anxiety, how much ingenuity, has been expended in eliciting these valuable truths, can only be ascertained by an attentive perusal of the records of the healing art; and I am led to think that a slight sketch of the efforts of our predecessors in this field of investigation may not form an inappropriate introduction to this course of lectures. It is obvious that the science of medicine consists of two great divisions,—1st, That which is subservient to diagnosis; 2nd, That subservient to therapeutics. The first division has experienced no lack of culture in the present age, either in these islands or on the continent. The study of pathology with living and with dead subjects has been so actively pursued, and the chemistry of organic substances so assiduously cultivated, that ample means have been supplied wherewithal the judgment might form a sound diagnosis in the majority of diseases; but as regards therapeutics, the prospect is not so flattering. Owing to the unhappy error I have just alluded to, that of supposing our task finished when a good diagnosis has been formed, less of the energy of professional intellect has been directed to the culture of the field of Therapeia than its real importance demands. The fascination which Genius exercises over ordinary intellects may, in some measure, account for the fashion which has thus prevailed in the preference of the study of internal and external pathology over that of the art of treatment; for who can peruse, without delight, the speculations of a Magendie, a Breschet, a Laennec, a Broussais, a Dupuytren, a Hodgson, a Prout, a Cooper, or an Abernethy?

The conduct of the student, however, who stops short at the bourne of therapeutics, is as irreconcileable with reason as would be that of a general who, having ascertained the position and force of his enemy, should neglect to employ or procure the means of resisting him. This interesting field of inquiry has not, however, been entirely without cultivators. The researches of a Cullen, of a Murray, a Duncan, a Christison, and several others, have thrown light upon many points of this extensive subject, and have furnished us with numerous data which will aid us in reconstructing this science upon a philosophic basis.

It will be my endeavour, in my future prelections, not merely to give you a barren enumeration of the remedial agents employed in the different branches of our art, but also to supply you with principles which may safely guide you in their selection, combination, and adaptation to the various pathological conditions of the human frame. That you will favour me with your best attention I have no doubt, when you reflect how much your usefulness to your fellow men, and consequent success in life, depends upon an accurate acquaintance with this subject.

A retrospect of the history of remedies would furnish us with lamentable evidence of the influence which the ignorance, knavery, and superstition of mankind have exerted over the progress of the true science of materia medica. So many circumstances interfere with the operation of medicines, that it is always difficult to arrive at the true causes to which any changes may be due; and there is certainly no branch of natural science which requires such careful and patient induction in rising to principles as this of ours. We need, therefore, the less wonder that in less enlightened times mere coincidences have been mistaken for permanent facts, and that injurious theories have proved to be mere hypotheses. I shall, therefore, in my course, take especial pains to point out to my young friends the complication of causes which form obstacles in our attempts at generalising upon effects of medicinal agents, and the multitudinous fallacies which want of caution in our reasoning has produced.

The effects of medicines are controlled by the numerous varieties of constitution, by age, by habit, by climate; and without great vigilance and acuteness on the part of the observer, the results may give rise to apparently conflicting data.

How various, for example, are the effects upon different individuals of mercury and opium, or even upon the same individual at different ages and under different circumstances? In one case, the largest doses of mercury, frequently repeated, may fail to produce ptyalism. In another, the most unexpected and disagreeable effects are produced by a single grain of this mineral. The influence of idiosyncracy and of various

pathological conditions on the powers of opium, is not less remarkable. In one patient, it acts as the calmest of sedatives; in another, it produces delirium and fever. The varying effects of vinous and fermented liquors must be familiar even to common observers. Equally fluctuating are the effects arising from the operation of other medicinal agents.

If such difficulties are to be surmounted, if so much patient investigation is demanded, can we wonder at the futile labours of the empiric who, in total ignorance of the real nature of his nostrum, as well as of the powers of the human constitution, with a daring hand interferes with the most delicate yet powerful machinery? Yet, in spite of reason, and even of bitter experience, the impudent pretender to mysticism has, in all ages of the world, been eminently successful in transmuting his base pretensions into "golden opinions." This credulity, by opening a road to wealth for the unprincipled mountebank, has of course always been a cause of discouragement to the genuine students; and the royal road of imposture is, unfortunately, too seductive to the weakness of our human nature not to be preferred, in many instances, to the laborious and ascending path by which alone true science can be attained. This has operated as a potent cause in the retardation of the progress of materia medica. Whether the Legislature may be induced, by the increased lights of the age, to establish a compulsory ordeal for every candidate who, *under any denomination*, proposes to medicate the bodies of his fellow subjects, or whether it shall remain in a criminal apathy to the crying evils we have alluded to, the duty of the conscientious student is unchanged; he must, with unflagging industry, seek for knowledge from every source, and thus augment his power as an agent of good to his fellow mortals.

In the early stages of society, the medical practitioner was simply a "culler of simples," and was necessarily guided in his prescriptions by the dictates of an empirical experience. In this state of knowledge, though his power would be extremely limited, yet so long as he confined himself to a strict method of induction in reasoning from the scattered facts, thus collected, his science, if such it could be called, would be genuine. But, unfortunately, to proceed thus quietly and legitimately in the march towards knowledge, was not the destiny of the human mind. Numerous impulses, acting in various directions, moved the reason of our predecessors from the right path, and materials, fitted to construct the eternal temple of truth, were perverted to the erection of monstrous fabrics of error.

A perusal of the ancient medical records will soon convince the inquirer, that the great causes of retardation in the progress of medicine, as of the other sciences, have arisen from an ignorance of the proper mode of conducting the operations of the understanding. Thus we find, in every page, evidences of the mental vices of credulity, scepticism, superstition, false generalisation, devotion to authority, whether of names or of habit, inaccurate observation, rash inference, &c. But to these innate defects of the human mind, considered as causes of evil to the advancement of the healing art, may be added certain moral accidents, such as—ambiguity of nomenclature, the neglect of botany, the vagaries of the chemists, the influence of climate and season on diseases, as well as on remedies, &c. &c.

I now proceed briefly to enumerate some of the errors arising from the causes I have just detailed, and I would suggest one explanation, as a moral deducible from a consideration of these errors. If men of such undoubted powers as those writers were have committed these mistakes, how much more cautious ought we to be who have no reason to consider ourselves as extraordinarily endowed.

It would not be unamusing, perhaps, to trace the influence of superstition over the progress of our art. The effects of this mental imbecility are traceable in very early times, as is evident from the priestcraft of Egypt, of India, and of Greece. In all these countries a knowledge of medicine was made an instrument for enslaving the minds of the people. Dr. Paris truly states, "That there is an unaccountable propensity in the human mind, unless subjected to a very long course of discipline, to indulge in the belief of what is improbable and supernatural; and this is, perhaps, more conspicuous with respect to physic than to any other affair of common life, both because the nature of diseases and the mode of curing them are more obscure, and because disease necessarily awakens fear, and fear and ignorance are the natural parents of superstition."

Every disease, the cause of which was at all obscure, has been attributed to the wrath of Heaven, or to the resentment of some invisible demon, or to a malignant aspect of the stars; hence the introduction of a crowd of useless remedies as expiations to the offended deities. Such was the motive which induced Arabian physicians to introduce the precious stones into the materia medica; and De Boot seriously states that their beauty and value render these bodies well adapted as receptacles for *benevolent* spirits.

The precious stones were first used as amulets, and were subsequently employed as internal remedies. Every substance to which any mystery could be attached has ever been eagerly applied to the purposes of medicine, from a current belief that its existence was, in some way, connected with

the agency of supernatural power. Soranus, the cotemporary of Galen, tells us that honey was an efficient remedy for the aphthæ of children, and gravely refers its virtues to the fact of its having been taken from bees that hived near the tomb of Hippocrates. Even the salutary properties of many herbs were ascribed to the planet under whose influence they were collected, and the symbol of that planet which imparted to the medicine its efficacy, was, by the old physicians, placed at the head of their prescriptions. In fact, the letter R, now considered as an abbreviation of the word *recipe*, is a relict of of the astronomical symbol of Jupiter.

Dr. Basham related many other examples of superstition. He then produced a diagram of the various signs employed by the alchemists and chemists, and fully explained them. He gave a full and clear account of the various speculations of the alchemists and earlier chemists, and illustrated, in a vein of keen ridicule, the inconsistency and avarice of those mistaken investigators, whose conduct, it is to be feared, is too faithful a symbol of that of our race in general.

The superstition of the alchemist (said the lecturer), was, in truth, not less gross than that of the most ignorant of the ancients, but we find, in all ages, that credulity,—which Dr. Paris distinguishes from superstition, as being an unbounded belief in what is possible, while superstition is a belief in what is repugnant to the laws of the physical and moral world,—is a far greater source of error than superstition; for the latter must be more limited in its influence, and can exist only, to any considerable extent, in the most ignorant portion of society; whereas the former diffuses itself through the minds of all classes, by which means the dignity of science is degraded, and its labours confounded with the pretensions of empiricism. Credulity is not characteristic of any particular age or country. England, however, has, by a distinguished German physician, been named the "paradise of quacks," and, I fear, with great similitude of truth; for in what other country have the *élite* of fashion been seen to crowd round a notorious quack, and to exert their influence to propel the sale of his nostra, nay, even to screen him from justice? In what other country has a wholesale vendor of gamboge bullets, whose agents have been repeatedly convicted of manslaughter, been enabled to realise a fortune almost equal to that of our first nobles? In what other country, Christian or profane, do the columns of the daily and weekly journals exhibit such disgusting exhibitions of obscenity and ignorance, as the advertisements of our quacks display? In what other country do the members of the Government consider the paltry revenue derivable from the sale of stamps for quack medicine, a sufficient excuse for jeopardising the lives of the community? To what other cause, than a culpable neglect of their duty, shall we attribute the supineness of our Legislature, unless, indeed, to a belief that quackery affords a safety-valve for the villainy of the community?

Even amongst intelligent members of our own profession, we are occasionally surprised with such assertions as that colchicum is a specific in rheumatism, and mercury a specific in syphilis. But these unfounded dogmata are fancies of the same type with those of the humoralists, the vitalists, or the mechanists, whose disciples implicitly followed the system taught by their masters. In the present day, indeed, many of the injurious causes already alluded to, are in constant operation. The existence of a belief that medicines can exert a specific virtue on particular diseases, that is, that they may act as direct antidotes or discutients, is far from uncommon.

The history of popular remedies during the last fifty years, would show the prevalence of this sophism. The Duke of Portland's powder for gout, a combination of bitters, was succeeded by the eau medicinale; and this has been supplanted by the preparations of the colchicum autumnale, which now reigns paramount, rather *de facto* than *de jure*. Hydrocyanic acid has been at the height of the fashion, as long as black silk stocks. It is considered a specific in phthisis, and other pulmonary affections, especially in hooping-cough. Belladonna has been lauded as a specific in scarlet fever; and creosote is said to produce miraculous effects in almost every affection of the alimentary canal. Strychnine, not long since in high repute, is now only remembered by the mischief its administration effected; and who can have forgotten the cart-load doses of carbonate of iron, shovelled into the alimentary receptacle, by a popular physician, in almost every form of malady?

Now, without disputing the value of these remedies under certain circumstances, I do protest against the false theories, in obedience to which they have been administered. The real powers of medicines have been overlooked in some cases, exaggerated in others; and it is by considering remedies in relation to particular forms of disease, instead of in reference to their action upon the system in general, that these errors have arisen. It is by attributing the cure of a disease to the direct effect of the remedy, instead of to its indirect effect through its influence on other organs, that false views are adopted. Thus, it is contended that in phthisis hydrocyanic acid acts directly in modifying the tubercular deposition, instead of, by its sedative property, in diminishing the action of the heart and arteries, and thus controlling the action of the pulmonary capillaries.

Turning our eyes from the past to the future, let us hope that the triumph of empiricism is drawing to its close, and that the thousands of inquiring minds now pursuing science in the right road, may so enlighten our race that even the by-lanes and mountain-paths of medicine may be improved. Chemistry has done wonders for us by assisting us in our inquisitions into the phenomena of life, as well as by furnishing us with new powers of analysis in our simplification of remedies. Medical science, though not susceptible of mathematical demonstration, is as capable of verification by induction as any other. We may, therefore, entertain glowing hopes of its future progress. When the true calculus shall be adopted we may certainly count upon the abandonment of old fallacious doctrines; juggling magnetisers will no longer afford sport for the intelligent public, or earn contempt for our profession; homœopathy will be cleansed from the absurdity of infinitesmal doses, and the true principle upon which it is founded will be admitted into the family of ascertained truths.

From what chemistry has done already for medicine, may we not infer great achievements for the future? In the department of vegetable analysis, an accuracy has been obtained, the very attempt at which had been abandoned in despair by the most illustrious chemists of a former age. The Royal Academicians of Paris, in their analysis of several hundred plants by the operation of heat, published by Geoffroy, failed in establishing any distinction between the most inert and the most poisonous plants; whilst the elegant researches in this branch of science, recently conducted in the same country, have succeeded in detecting and separating several of their most subtle and active ingredients. A number of these have been arranged together under the title of vegetable alkalies, from the common property which they possess of neutralising acids, and forming crystallisable compounds, analogous to the neutral salts. They differ very much in their chemical composition from the mineral alkalies, these being all compounds of a metallic base with oxygen, while the former are compounds of the usual elements of vegetable matter.

Dr. Basham now entered into a minute detail of the chemical and medical properties of the various alkaloids, which we regret we have not space for. From these triumphs of chemistry he drew the favourable inferences, already stated, as to the future contributions of that science to the healing art.

Having delivered these introductory remarks, the lecturer proceeded to sketch the prospectus of his course, dividing his subject into four divisions:—

1. Pharmaceutical processes by which remedies are rendered fit to be administered.
2. General principles of therapeutics.
3. Natural history of medicaments.
4. Theory of dietetics.

Having given his reasons for adopting this arrangement of his subject, the Doctor entered into many details and reasonings regarding each division, and having afforded some excellent advice to the pupils constituting his auditory, touching the moral principles which should actuate their conduct as students and as practitioners, concluded with a very appropriate peroration.

RECLAMATION OF DR. GRANVILLE.

To the Editor of THE LANCET.

SIR:—The appearance of a review of Dr. Roe's work on hooping-cough, in your Number for Sept. 22, and certain remarks of the reviewer, respecting the use of prussic acid in that disease, which would lead one to believe that he is imperfectly acquainted with what has been done in this country with that powerful medicine, render it necessary (in order to protect my professional interest), that I should set the reviewer right, while, at the same time, I expose a most glaring attempt of the author reviewed, to set aside the labours and claims of another, through misrepresentation and the suppression of facts.

It is a principal and avowed object of Dr. Roe's publication to induce his readers to believe, that before its appearance the medical profession could have known nothing, or very little, of the efficacy of prussic acid in hooping-cough; and that he, Dr. Roe, ought henceforward to be looked upon as the individual to whom we are to be indebted for this valuable therapeutical discovery. The preface, the introduction, and parts of the text of Dr. Roe's volume, contain palpable insinuations of that pretension,—a pretension which, to judge by some remarks in your Journal, seems to have deceived even the able reviewer of that work.

The reviewer's words are these:—"It has already been observed, that the chief object of the work before us, is to recommend the use of hydrocyanic acid in the treatment of hooping-cough. Accordingly, Dr. Roe details several cases, in which that remedy was employed with manifest advantage. The results of his experience, &c. &c.....are such as to *warrant a trial* of this powerful remedy in all cases in which it is applicable, and we trust that *a more extended experience* will confirm the high eulogium pronounced upon it by Dr. Roe."

Now, Sir, the task which I propose to myself in my present communication, is to prove that Dr. Roe's pretension is vain, unfair, and unfounded. *Vain*, because it implies a superiority of knowledge above the rest of the profession, which is not substan-

tiated. *Unfair*, because it aims at an act of injustice against a brother practitioner. *Unfounded*, because it is devoid of every ground of support. These several points I shall proceed briefly to illustrate by comparative statements, such as Dr. Roe himself will not be able to gainsay, inasmuch as they will be derived from his own work, and from another long since before the public. I shall then leave the readers of THE LANCET to determine the degree of merit that appertains to Dr. Roe's volume on hooping-cough (as far as the employment of prussic acid is concerned), beyond that of having followed in the wake of another volume, which has been for *many years* in the hands of the medical profession, and which anticipated everything that the learned Fellow of the College of Physicians has advanced regarding the efficacy of prussic acid in that disease.

I must premise my statements by reminding you of the following historical facts, in the medical literature of this country, which seem to have escaped the recollection of the talented reviewer of Dr. Roe's volume in THE LANCET.

In 1815 I published a paper on the internal use of prussic acid, in the "Monthly Medical Repository."

In 1817 I again called the attention of the profession in this country to the same subject, by giving a full translation of Professor Magendie's publication on prussic acid, as a cure for convulsive cough, phthisis, &c. The translation was inserted in the "Journal of Science."

In 1819 I published "Farther Observations" on prussic acid, in the cure of several diseases, hooping-cough included. Lastly,—

In 1820, I published a larger volume, entitled "An Historical and Practical Treatise on the Internal Use of Prussic Acid, with several Formulæ" being a much enlarged edition of my work of the preceding year.

Up to the time of my writing, not a single English pen had been employed on the subject; nor had prussic acid been prescribed in this country. This fact, and these publications, I should have thought quite sufficient to make it notorious that I had been the first to introduce and recommend the use of prussic acid in England—the more so, as all the reviewers of those days admitted the fact, and gave me full credit for it.

Let us see, however, what the volume under consideration says on this subject:—"Having witnessed the great benefit which many patients in St. Thomas's Hospital derived from the use of prussic acid, prescribed for them by Dr. Elliotson.....I was induced to think it *might probably prove a remedy for hooping-cough*, not being then aware that any author had recommended it as such."—(*Dr. Roe's preface.*) And he goes on to state, that "a trial of it upon several children suffering from the disease, in its simple form, was attended with such striking effects, that I could not entertain a doubt that this medicine possessed a specific power over hooping-cough."—(*Ibid.*) Dr. Roe had already mentioned, in another part of the said preface, that "more than ten years have elapsed since I began to prescribe hydrocyanic acid for hooping-cough." As the Doctor writes in 1838, it must have been about the year 1828, that he was, by inspiration, induced to think that hydrocyanic acid would cure hooping-cough, he not knowing, at the time, that any other practitioner had so recommended it.

Now, I must beg my professional brethren to attend to the following statement:—Dr. Roe, who, of course, as an improving physician, I must suppose to be desirous of reading all important new works on medicine, having his attention directed to the internal use of hydrocyanic acid, by some casual observations in one of the hospitals, did not know, in 1828, that a large historical treatise on prussic acid, including its effects on hooping-cough, had been published in 1820, only eight years before, and reviewed by one medical journal in 1821, by a second in 1822, and by a third a year later; making a difference of only *five* years between the publication and general notice of the treatise in question, and the period of *ignorance* of Dr. Roe as to the existence of any such work.

In the midst of this ignorance Dr. Roe tells us, that he went on prescribing the prussic acid in hooping-cough, all along imagining himself the first practitioner who had employed it,—until at length, at the expiration of three or four years (or, at all events, of some given period of time), he formed the resolution to write a book on the subject, with a view to communicate his observations and experience to the profession. For this purpose, he states, that he set about collecting and preparing the necessary materials, when, lo! "in the course of my inquiries, I found that Dr. Granville had pointed out the efficacy of the same remedy *some years* before." Such a discovery, one would have thought, ought to have induced the learned author of the "Treatise on Hooping-Cough," to set aside his claim to originality in the peculiar treatment recommended; but no, he still maintains it, and reconciles it with justice by another fallacious averment, that "Dr. Granville had not done more than state the fact."

Dr. Roe having found out all this, proceeds to mention, in another part of his volume, that he "believes Dr. Granville has the merit of having introduced the medicine in this country." As Dr. Roe affirms that he had read my work on prussic acid (edition 1819), wherefore concede, under the form of a dubitative expression,

merit which he thinks to belong to me, when it stands declared in the very title-page of that work thus:—"On the Internal Use of Prussic Acid in Hooping-Cough;" and also in the first page of the preface in these words:—"Having been the *first* to call the attention of the profession in this country to this important subject?" &c. &c.

Elsewhere, in his volume, Dr. Roe states, that the object of his work is to show that the recommendation of hydrocyanic acid as a cure for this complaint (hooping-cough), given by Dr. Granville, in 1819, was worthy of more attention than it received." This statement is still more reprehensible than the preceding, inasmuch as it involves the suppression of an important fact, and also a charge of supineness, or indifference, on an important point of practice, against the medical profession in England, which that profession does not deserve. The important fact which Dr. Roe suppresses in this place, is the publication of a second and much larger edition in 1820, of the work alluded to by him. Had he mentioned it, he could not have ventured on the statement he has thought proper to make, that my recommendation of prussic acid, either generally, or as a cure for hooping-cough, had not met, from the profession, all the attention it deserved. So far from that having been the case, I expressed, in my second edition, the gratification I felt at having it in my power to add to my own, the evidence of many practitioners, which I could not withhold from the public without a dereliction of duty, as they had either, on my personal recommendation, or in consequence of my former publication, employed the prussic acid in many complaints, hooping-cough included. It is certainly true, that previous to my smaller edition (1819), on prussic acid, I did not prevail (neither could I expect to do so on the slender evidence I had hitherto published) on many practitioners in England to use it; but the moment that edition, which Dr. Roe avers was not much attended to, had made its appearance, the result was far different, as Dr. Roe must have read at page 126 of the second edition, where it is stated, that "subsequently to the appearance of this work the prussic acid has been *frequently* employed by English practitioners, and notice has been taken of this important addition to our materia medica by *various* publications."

In confirmation of this statement, Dr. Roe must have read, at page 21, of the same second edition (1820), to which, I repeat, he ought to have alluded, in a note, wherein I mention, that from returns obtained from Professor Brande, in reference to Apothecaries' Hall, and from Mr. Garden, of Oxford-street, I had ascertained that in the interval between the two editions of my book, there had been sold not less than *nine hundred and twenty-eight* ounces of prussic acid,—a medicine which was then administered in such small doses (a drop each), that *two hundred and twenty thousand, seven hundred and twenty such doses* must have been sold in the course of one year, at two establishments only!

Do these facts, in the smallest degree, sanction the strange charge of remissness against the medical profession in England, in paying due attention to my recommendation of prussic acid, when, in the course of one year only, subsequent to that recommendation, and on my simple authority, my professional brethren made so large a use of a new and powerful remedy?

Yet, with all this evidence before him, Dr. Roe has hazarded another even more extraordinary statement, namely, that when engaged, a few years ago, in preparing materials for his present work, he was actually *deterred* from persevering in his intention of making known to the medical profession the power which prussic acid possesses in curing hooping-cough; deterred "by the strong prejudice generally entertained at that time (no time is stated, but certainly since 1828), by the medical men in London, as well as by the public, against the use of that medicine!" Prejudice in the medical men in London, when Dr. Paris, in his lectures on materia medica, delivered before the College of Physicians, of which Dr. Roe *is a Fellow*, after the appearance of my edition of 1819, commended the medicine in question, giving me credit for having introduced it; when Dr. A. T. Thomson adopted my views on prussic acid, in his "London Dispensatory," and recommended it as a powerful and effectual agent in many diseases; when my publication of a "Pharmacopœia Pauperum," for the Royal Metropolitan Infirmary of Sick Children, contained two *formulæ* for the administration of prussic acid, which has been used in the treatment of hooping-cough at that institution, since 1820, in some thousands of cases; when Dr. Elliotson was in the habit of prescribing the said remedy at St. Thomas's Hospital, as Dr. Roe himself tells us; all which events had taken place long before our author had dreamt of using it himself. Prejudice, indeed!

The inference which Dr. Roe would expect his readers to draw from the views he had taken of the question,—thanks to misstatements, omissions, and suppression of facts,—would be, that he is the first introducer of prussic acid, as a cure for hooping-cough, and that the profession must take the recommendation of that medicine from him, at this present moment (1838). This inference he has succeeded in getting a reviewer in a fashionable morning paper to adopt, who, absolutely ignorant of the entire question, repeats most of the misstatements of Dr. Roe, and exhibits him to his fashionable readers, by the perversion of truth, as the introducer of prussic acid in the treatment

of hooping-cough; and something like the same inference has the reviewer in THE LANCET adopted, in the passage I have already quoted. Thus, in the former case wilfully, and in the latter case unconsciously, would my professional claims be injuriously affected, were I not, in the present instance, to come forward and defend them, through your sense of justice, and considerate insertion of my reclamation.

One would be inclined to think, after this *exposé* of Dr. Roe's conduct, that I had exhausted all that could be brought against an author who attempts to strip another of his due; but the worst remains yet to be told, and purposely I left it, for a *bonne bouche*, in this precious banquet of the *sayings* and *doings* of that physician, who (it should never be lost sight of) is a Fellow of the College of Physicians. Anxious, evidently, to secure to himself the benefit of the inference already alluded to, and fearful, I suppose, that all his misstatements and suppressions might not be sufficient to accomplish that object, Dr. Roe, in one other part of his "Treatise," puts forth the following grave and deliberate misrepresentation:—"It is much to be regretted, for the sake of the public, that instead of *incidentally* mentioning hooping-cough as one of the diseases in which prussic acid is useful, he (Dr. Granville) did not furnish the profession with cases illustrative of its effects." But how stands the fact? Why, that in the very edition of 1820, to the contents of which Dr. Roe has not found it convenient to refer, for the enlightenment of his readers, and eighteen years before Dr. Roe undertook to publish a book on the same subject, giving the results of his experience, in a separate section, solely devoted to the consideration of hooping-cough, I had given, at length, *ten* cases, and referred to *six* more, all of which had been selected from my practice, in the course of ONE year only, being two or three more cases than Dr. Roe himself has numbered at length in his book, embracing a practice of TEN years!

I could have fained to hope that Dr. Roe, instead of being guilty of so gross a misrepresentation, had fallen into a mere error, from not having read or seen my second edition of 1820. Unfortunately, that species of explanation is wholly inadmissible; for Dr. Roe himself states, and states truly, that I modified my sanguine expectations of the benefit to be derived from prussic acid, expressed in 1819, by my "second edition, in 1820," and my words of modification to that effect, *actually occur at the tail of* the sixteen cases alluded to!

Ohe! jam satis est.

And I remain your obedient, humble, servant,

A. B. GRANVILLE, M.D.

16, Grafton-street,
Oct. 1, 1838.

NEW MODE
OF
FORMING SPLINTS.

To the Editor of THE LANCET.

SIR:—An article in the last number of the "British and Foreign Medical Review," on the mode of treating fractures by an immoveable apparatus, induces me to send you a description of one which is still more simple, and, in my opinion, more effectual, which I adopted five-and-twenty years ago. I had thought that the same idea must have occurred to hundreds of surgeons besides myself.

I had been visiting a *papier maché* manufactory at Birmingham, and observing how firm a board was formed by the simple process there employed, it instantly occurred to me that it would make the best possible splints for fractures.

Perhaps *all* your readers may not be aware of the mode in which the light and elegant tea-trays are manufactured; they simply consist of whited-brown paper, soaked in paste, and laid, *layer over layer*, until they acquire the requisite thickness, when they are pressed and dried.

My mode was, then, after taking especial care to have the bones in exact apposition, to paste around the limb a sufficient number of strips of thin whited-brown paper, to form the substance required, taking great pains to ascertain that the position remained correct up to the time when the hardening of the mass rendered further anxiety on the subject unnecessary.

It was not often that I left it in this state permanently, though it appears I might have done so without risk; but my object was to form these splints, perfectly adapted to the shape of the limb, and I, therefore, at the proper time, pushed down, between the paper and the skin, a spatula knife, and carefully cut through, with a penknife, from top to bottom, at such distances as were best calculated to form good-shaped splints. These I lined with rag, flannel, or lint, according to circumstances, and the whole being tied with tapes, formed an absolutely perfect and immoveable apparatus, of course most accurately adapted to the limb. In some cases, where considerable tumefaction had taken place, the vacuum left on its subsiding had to be padded; the first layer of paper next the skin, and the outer layer of all were not pasted, but only wetted. I am, Sir, your obedient servant,

A. L. WIGAN.

Montpelier Terrace, Brighton,
Oct. 4, 1838.

ON THE

MORTALITY AND FREQUENCY OF *DISEASE AMONGST CHILDREN,*

By PETER HENNIS GREEN, *M.B.*

In the 20th Number of THE LANCET, Vol. II. 1837-8, I offered some remarks on the mortality and frequency of disease amongst children, derived from personal observations made at the Children's Hospital, Paris. The following communication is intended to form a supplement to the statistical facts already detailed. I shall be brief in any remarks which I have to make upon the tables contained in the present paper, being simply desirous of furnishing materials from which those who make a special study of statistics may derive conclusions.

The first table includes the whole of the entries into the hospital during the years 1833-5 inclusive, and embraces a sum total of 9429 cases. In order to show the manner in which "mortality" is influenced by "age," the patients have been divided into four classes, the interval between each being four years.

TABLE 1.—*General Table according to Age. 1833 to 1835, inclusive.*

Age.	Entries.		Deaths.	
	Boys.	Girls.	Boys.	Girls.
2 to 4	808	678	334	290
4 to 6	519	590	163	170
6 to 10	1407	1427	209	225
10 to 15	2246	1754	157	176
Total....	4980	4449	563	661

From the above table it appears that the general mortality was 12.98 per cent.; that the mortality amongst the boys was 11.30 per cent.; and that the mortality amongst the girls was 14.85 per cent. Hence disease is more fatal in female than in male children in the proportion of 14.85 to 11.30.

Let us now see how far the mortality was influenced by the ages of the patients attacked. In the first period (from 2 to 4 years) the mortality was 41.99 per cent.; in the second period it had fallen to 27.54 per cent.; while in the fourth period (from 10 to 15 years) it did not exceed 8.32 per cent. Thus we perceive that the mortality is five times greater at the early period of infancy than it is during the last five years of childhood.

Table 2 indicates the proportion of patients cut off by the different diseases incidental to childhood, at different ages. The general mortality furnished by this table is 34.29 per cent.

TABLE 2.—*Acute Diseases.*

Year 1833: Age.	Entries.		Deaths.	
	Boys.	Girls.	Boys.	Girls.
2 to 4	169	141	87	99
4 to 6	89	99	43	60
6 to 10	168	222	65	62
10 to 15	251	254	32	39
Total....	677	716	237	260
Year 1834:				
2 to 4	129	127	69	62
4 to 6	78	80	34	37
6 to 10	135	149	36	53
10 to 15	266	237	41	45
Total....	608	593	180	197
Year 1835:				
2 to 4	134	157	90	90
4 to 6	77	88	39	40
6 to 10	146	188	48	48
10 to 15	315	267	38	49
Total....	672	700	215	237
Gen. Total	1957	1909	622	704

TABLE 3.—*Surgical Diseases.*

Year 1833: Age.	Entries.		Deaths.	
	Boys.	Girls.	Boys.	Girls.
2 to 4	34	19	8	4
4 to 6	19	16	1	4
6 to 10	84	51	7	6
10 to 15	154	73	3	4
Total....	291	159	19	18
Year 1834:				
2 to 4	26	22	4	5
4 to 6	22	23	2	4
6 to 10	72	32	7	2
10 to 15	130	44	4	3
Total....	250	131	17	14
Year 1835:				
2 to 4	21	27	4	9
4 to 6	20	17	4	2
6 to 10	72	31	1	5
10 to 15	116	40	8	1
Total....	229	115	17	17
Gen. Total	770	405	53	49

In table 3 we find the statistics of deaths occasioned by surgical diseases, and arranged according to the ages at which they

occurred. The general mortality is 8.68 per cent. In medical diseases (if they can be so called) we have seen that the mortality amounts to 34.29 per cent. Again, the mortality amongst the boys is 6.88 per cent.; amongst the girls it is 12.10 per cent.; a proportion which is very striking, but into the causes of which I cannot now examine.

Table 4 comprehends the statistics of patients affected with ophthalmia and cutaneous disorders, excepting tinea capitis, and scabies, which are noticed in separate tables. Even in this division the general mortality amounts to 7.13 per cent.; but what is more worthy of notice is, that the mortality amongst the boys is more than double that which occurs amongst the girls, being in the proportion of 9.81 per cent. to 4.19. I am not prepared to account for this difference, which seems extraordinary. It cannot be regarded as an accidental occurrence, for a reference to the table shows that it existed, nearly in the same proportions, throughout each year.

TABLE 4.—*Ophthalmia and Dartres.*

Year 1833: Age.	Entries. Boys.	Entries. Girls.	Deaths. Boys.	Deaths. Girls.
2 to 4	60	46	18	8
4 to 6	37	44	5	5
6 to 10	84	113	3	2
10 to 15	106	106	0	0
Total....	287	309	26	15
Year 1834:				
2 to 4	48	35	11	5
4 to 6	49	41	8	2
6 to 10	101	89	6	1
10 to 15	124	104	0	0
Total....	322	269	25	8
Year 1835:				
2 to 4	73	50	22	2
4 to 6	44	47	7	6
6 to 10	106	96	9	5
10 to 15	126	110	6	1
Total....	349	303	44	14
Gen. Total	968	881	95	37

In table 5, we again find the mortality amongst females considerably preponderating. The general mortality of scrofula is 30.07 per cent., or 23.00 for the boys, and 41.79 for the girls. The influence of age upon the mortality of this disease is contrary to what we have seen taking place in the other divisions already enumerated. Here the mortality is less at an early period of life; thus for the different periods already enumerated, we find the following rates of mortality per cent., 38.09, 37.85, 27.69, and 28.04.

TABLE 5.—*Scrofula.*

Year 1833: Age.	Entries. Boys.	Entries. Girls.	Deaths. Boys.	Deaths. Girls.
2 to 4	9	6	3	4
4 to 6	21	15	9	5
6 to 10	43	32	13	11
10 to 15	48	40	6	13
Total....	121	93	31	33
Year 1834:				
2 to 4	5	2	0	2
4 to 6	16	8	4	3
6 to 10	33	18	5	8
10 to 15	23	19	7	10
Total....	77	47	16	23
Year 1835:				
2 to 4	20	0	7	0
4 to 6	12	4	5	2
6 to 10	45	24	6	11
10 to 15	38	21	7	10
Total....	115	49	25	23
Gen. Total	313	189	72	79

TABLE 6.—*Tinea.*

Year 1833: Age.	Entries. Boys.	Entries. Girls.	Deaths. Boys.	Deaths. Girls.
2 to 4	9	13	2	0
4 to 6	14	14	0	0
6 to 10	33	52	1	1
10 to 15	45	43	3	1
Total....	101	122	6	2
Year 1834:				
2 to 4	5	4	1	0
4 to 6	12	12	2	0
6 to 10	43	39	2	0
10 to 12	53	28	2	0
Total....	113	83	7	0
Year 1835:				
2 to 4	11	4	1	0
4 to 6	14	13	0	0
6 to 10	37	54	0	0
10 to 15	41	42	0	0
Total....	103	113	1	0
Gen. Total	317	318	14	2

Finally, table 6 demonstrates the curious facts that the secondary affections which prove fatal in children affected with tinea capitis are *seven* times more frequent in males than in females. This is a point with which I was unacquainted before I had drawn up the preceding table; it is one for which it might not, perhaps, be easy to find an explanation. On the other hand, the cure of scabies is *never* attended with any of the dangerous consequences which sometimes attend the removal of tinea capitis and other cutaneous affections in children. The total number of cases of scabies treated during the years 1833-5 was 1382, amongst which not a single case of secondary fatal complication occurred. A similar result may be gathered from the table of M. Duges.

The following tables I have arranged from a statistical history of the Children's Hospital, Paris, drawn up by the late Professor Duges, in 1818, and appended to his treatise on fever; it may be interesting to compare them with those which have appeared in a recent Number of THE LANCET. The observations of M. Duges were confined to the "acute cases" in the female wards; the number of girls admitted during the year was 914. Of these, 388 were cured; 80 were discharged not cured; and 446 died. The general mortality, in this division, amounted to 48.78 per cent.; that, in the same division, for the years 1833-4, was 33.22 per cent.; being a difference in favour of the latter period of 15.56 per cent.

TABLE 7.—*Diseases of the Digestive Organs.* 1818.

Disease.	Deaths.	Cured.	Not Cured.
Angina, simple and complicated	13	12	0
Aphthæ	2	1	0
Carreau (tubercular peritonitis?)	20	0	0
Dentition	0	2	0
Diarrhœa	29	15	3
Enteritis, acute....	6	14	0
——— chronic..	21	2	2
Gastritis	3	0	0
Peritonitis, acute..	2	2	0
——— chronic	6	2	3
Worms	0	4	2
——— with complication of a second disease	6	0	0
Total.....	108	54	10

The above table furnishes, very nearly, the same results as those which I have published for the years 1833-4. We here find indicated the extreme mortality of tubercular peritonitis (carreau); the danger of acute enteritis; and the rarity of simple peritoneal inflammation in the young subject.

TABLE 8.—*Diseases of the Respiratory System.* 1818.

Disease.	Died.	Cured.	Not Cured.
Bronchitis, simple	3	22	0
——— complicated	14	8	0
Laryngitis, simple	12	1	1
——— complicated	24	5	1
Hooping cough....	8	10	0
Phthisis.....	25	0	5
Pneumonia, simple	16	30	5
——— complicated	39	6	0
——— chronic....	13	6	3
Total.....	154	88	15

This table also confirms the results of my own investigations. We have the same frequency of pneumonia, which furnishes somewhat more than one-third of the cases of disease affecting the respiratory system in children. The mortality of the two periods, however, presents a very remarkable difference: in 1818, it was 59.92 per cent.; in in 1833-4, it was 36.34 per cent. Are we entitled to attribute this striking difference of mortality between the two periods to the great improvement in the diagnosis of thoracic disease which has been made since the year 1818? I am inclined to think so, because the difference in the treatment has not been such as would account for the diminution of mortality in 1834.

TABLE 9.—*Diseases of the Circulating System.*

Disease.	Died.	Cured.	Not Cured.
Aneurysm of Heart	2	0	0
Fever (all species)	18	40	0
Ague	0	8	1
Mælena.....	0	1	0
Total.....	20	49	1

Upon this table I have no remark to make, as I am not acquainted with the sense in which M. Duges may have employed the term fever.

TABLE 10.—*Nervous System.* 1818.

Disease.	Died.	Cured.	Not Cured.
Apoplexy	3	0	0
Arachnitis.....	3	0	0
Abscess of Brain ..	1	0	0
Hydrocephalus, acute	18	0	0
——— chronic..	5	0	0
Tubercle of the cerebellum ..	1	0	0
Chorea	1	12	6
Epilepsy	0	0	6
Idiotcy	6	0	1
Paralysis	2	0	2
Total.....	40	12	15

TABLE 11.—*Organs of Sense.* 1818.

Disease.	Died.	Cured.	Not Cured.
Erysipelas.....	0	12	0
Ophthalmia, acute	6	26	0
——— chronic	6	28	21
Pemphigus, complicated.....	3	0	0
Measles, simple...	0	35	1
——— complicated	27	7	2
Small-pox, confluent	23	13	0
——— discrete..	16	38	1
Varicella, simple..	0	8	0
——— complicated	1	1	0
Zona	0	1	0
Gangrene	10	0	0
Gangrene of mouth and pudenda....	10	0	0
Ulcers of the genital organs.....	4	4	2
Dysmenorrhœa and hysteria	0	8	1
Total.....	106	181	28

The table of diseases of the nervous system for 1818 is, as far as it goes, the exact counterpart of the one which I have drawn up for the years 1833-4. The proportion and mortality of cases of hydrocephalus (tubercular meningitis) are precisely the same. The only difference worthy of noting is the more accurate diagnosis which has enabled us to distinguish the various diseases of the nervous system with greater precision than formerly. Thus, in the table of Professor Duges, we find only one case of tubercle of the brain mentioned, while my tables indicate no less than thirteen examples of tubercle of the nervous centres. Unfortunately an increased knowledge of organic diseases of the brain has in no way contributed towards diminishing their mortality, as improved diagnosis in diseases of the chest has certainly diminished that of thoracic affections. The fatal termination of hydrocephalus, meningitis, and cerebral tubercle occurred as frequently in 1834 as it did sixteen years previously to that period.

TABLE 12.—*Secretory Organs.* 1818.

Disease.	Died.	Cured.	Not Cured.
Ascites	2	1	0
Hæmaturia.....	1	2	0
Hæpatitis	0	2	0
Total.....	3	5	0

TABLE 13.—*Organs of Locomotion.*

Disease.	Died.	Cured.	Not Cured.
Rheumatism.....	0	4	0
Rickets.....	11	0	2
Caries of Spine....	3	1	5
Total.....	14	5	7
Gen. Total....	446	388	80

The above tables, together with those which are contained in a former paper, will, I trust, convey some useful information on the statistics of infantile disease. The collection of the materials which compose them was attended with no small degree of personal toil, but the expenditure of time and labour will have been fully repaid if they are found to throw any light upon a subject which has not hitherto been cultivated in proportion to its importance.

NORTH LONDON SCHOOL OF MEDICINE.

THE business of the school commenced on Monday, October 1st, at three o'clock, with the delivery, by Mr. P. B. LUCAS, of an introductory lecture to a course on anatomy and physiology.

After having taken a general view of the position which man bears to the various objects by which he is surrounded; the relation which he holds to the great family of Nature, of which he forms an individual member; and the advantages to be derived in the examination of his several organs, from a constant reference to those of the lower animals, the lecturer traced the alimentary cavity, as a distinctive mark between animals and vegetables, from the monads up to

man. He next glanced at the centrifugal and centripetal theories of development, the manifestations of life, and at life in a latent state; and having given a brief, but at the same time comprehensive view of the various malformations to which the human body is subject, he insisted on the necessity of a division of labour in teaching the sciences of anatomy and physiology. He remarked, however, that great caution was to be observed in such division, on account of the intimate union which exists between these two branches of medical education, and concluded this portion of his discourse by recommending the student, above all things, to pursue the study of anatomy on the dead body itself, patiently, and with perseverance; for there existed no royal road to that science, while the assistance of drawings, manuals, diagrams, &c., should be looked upon merely as auxilliary. The lecturer then commented, in a temperate, but pretty severe manner, on the illiberality of the persons connected with University College Hospital, who endeavoured to create a monopoly in favour of that institution, by raising the price of hospital instruction to all who were not students of the University, and showed how this shabby attempt at monopoly by a *soi-disant* liberal institution might be defeated.

There were present about sixty pupils and friends who testified, by loud plaudits, their satisfaction at the manner in which the lecturer had acquitted himself of his task.

LITTLE WINDMILL-STREET SCHOOL OF MEDICINE.

DR. SIGMOND'S SESSIONAL INTRODUCTORY LECTURE.

The Introductory Lecture at this School was delivered by Dr. Sigmond. We regret that from want of space we are compelled to give only a brief outline of it. The lecturer, having alluded, in a few words, to the origin of medicine, immediately entered, "in medias res," and showed that a knowledge of the different branches which were taught was indispensable for the formation of a skilful practitioner. He then bestowed a few words of encouragement on the student, lest the multiplicity of things to be learned might terrify him, and showed how the mutual dependence of the different branches of the science facilitates their acquisition; at the same time the student might rely on the aid and active co-operation of his teachers. These were peculiarly necessary in the study of medicine, where minute points were often of so great importance. These were illustrated by references to anatomy, botany, and clinical medicine. The lecturer then pointed out the manner in which he thought that the student might pursue his studies with the greatest advantage to himself; anatomy was the first and chief point to which attention should be directed. "I would have you (said the lecturer) begin with a regularity of study which may serve as a basis on which the rest of the superstructure may be raised. During the first year of your study, I would recommend you to become acquainted with the anatomy, the physiology, or study of the functions of all the various organs by which the vital actions are performed; these embrace a thorough knowledge of the circulation of the blood, of the respiration of atmospheric air, and of the generation of animal heat. This series of functions are intimately connected together, for the purpose of supporting life itself, and are mostly performed by viscera contained within the thorax, or chest, but whose power is, by a series of vessels, distributed through the minutest tissue of the human body. Upon these all the natural, the animal, and the reproductive systems, are completely dependent, and therefore a previous knowledge of their important states in health and in disease, becomes indispensably necessary, and, indeed, furnishes you with a key by which you can open, with great facility, the doors to the other parts and portions of our science. I would have you connect together the anatomy, the physiology, and the pathology, or history, of the diseases of the various organs by which the vital actions are carried on; for you will find them associated together by some of those extraordinary phenomena which are exhibited, with the greatest regularity, in states of health and of disease."

The lecturer now drew a rapid sketch of the history of the discoveries made respecting the heart and circulating system, and dwelt upon their value; he demonstrated their connection with the doctrines of inflammation, and took this opportunity of dwelling on the merits of the gentlemen to whom the task of imparting instruction in medicine and surgery was entrusted.

Dr. Sigmond next bestowed some notice upon chemistry, and pointed out the advantages which are possessed by the physician, from a practical knowledge of this science; he also eulogised the zeal and talents of his colleague, whose duty it was to deliver lectures on midwifery; and, finally, spoke of those which he himself (Dr. S.) was called upon to perform, as a teacher of materia medica. The other branches of medical instruction were not neglected by the lecturer, but we are compelled to pass over this portion of his discourse, having only room for the concluding remarks.

Dr. Sigmond observed,—"Those who have already been pupils of this establishment, are aware of the feeling of friendship and of kindness that has ever existed between them and their preceptors, and most anxious are we for a continuance of that pleasing intercourse. We are anxious to

impress upon your minds the necessity of diligence, of punctuality, and of attention. We are fully aware of all the difficulties that are attendant upon these pursuits; that they are not always attractive; but we likewise know, that hereafter you will fully appreciate the value of your own labour. You are now, by observation, by attentively listening to the precepts of those who are facilitating your progress, to lay the foundation for gaining esteem of society, respectability of character, and that independence which is dear to the heart of man. It is gratifying to every one engaged in the profession to observe, how much, within a very short time, the character and the station of the medical student is improved. He is now regarded, even in a higher light than an aspirant in any of the professions. I can remember when a young man, walking the hospitals, as it was termed, had little estimation in society, and was even looked at with something approaching to doubt, as to his future progress; and he, indeed, was often obliged, in the pursuit of his anatomical studies, to encounter some share of the prejudice which belonged to dissection; this has now disappeared. The pupil of an enlightened teacher carries with him some of the respect that is due to his preceptor, and he is judged to be in possession of some share of that intellectual superiority which belongs to our profession. He is generally distinguished by his anxious desire for information, by the pleasing gentleness of his manner, by his anxious desire to be of service to his fellow beings, and to relieve their sorrows and their sufferings. It is our most earnest hope, that there may go forth from this school men who may do honour to our science, who may adorn the magnificent profession they have commenced. We wish to see around us young men of ardent minds, of honourable principles, and of good feeling. We would rather have the select few, who are imbued with a proper spirit, than the indiscriminate many, who would neither feel for themselves nor for us. We hold forth no great promises, but it is our anxious wish to fulfil the duties we have undertaken, and we look to your kindest consideration for all that may pass here, because we feel that whatever we do will be with the view of rendering you that which we trust you will deserve, and ought to be, intelligent, skilful, and honourable members of the great community."

MIDDLESEX HOSPITAL SCHOOL.

Dr. Leighton gave the Introductory Address at this school. After some preliminary observations on the objections usually made to introductory lectures, the Doctor stated that his object was to convey to the mind of the pupil a general notion of the objects and subjects comprehended under medical study, and of the attention and study which they respectively demand. The object of medical study was, of course, the cure and prevention of disease; but this implied, again, a knowledge of the conditions of life, which were an organised structure, and a certain determinate relation to this structure of the agents that surround it. He then proceeded to show that the study of medicine was thus co-extensive with the study of nature, and that the physician should be what his name implies,—a natural philosopher; in the words of Bacon, "the servant and interpreter of Nature." In this wide field there were some objects to which his attention should be more particularly directed. The structure and function—the anatomy and physiology—of the human body was the foundation of medical study; that the distinction, however, between anatomy physiology was in idea only, since in nature they were essentially one: the object of anatomy being the structure in repose,—that of physiology, in action. He then pointed out the important distinction between general and special anatomy, and showed, by example, that the former was, as it were, an analytical instrument, enabling us to decompose a disease into its simpler elements. On the necessity of special anatomy, it was unnecessary to insist, since the study of it must find its own reward in the gratification of the eager curiosity of the pupil, who is naturally impatient to investigate the curious apparatus by which so many marvellous effects are achieved. He then considered the relative advantages of the two methods of studying it,—lecture and dissections,—and urged the importance of the latter, more especially with relation to general anatomy and to the exercise of his powers of minute observation. The lecturer observed, that the study of anatomy did not end here; that the finest dissecting knife could not reveal to him the ultimate composition of the human body, but that he might put himself in possession of an instrument that would,—chemistry. This was defined, and its application to anatomy and physiology illustrated by examples. But by either of these instruments of analysis the organ was destroyed, yet Nature herself had furnished us with another in comparative anatomy. The lecturer then enlarged, at some length, on the relations of comparative to human anatomy. Among the advantages of the former, which were detailed at some length, was included the opportunity afforded for experiment when the end sanctioned the means; but that this required, on the part of the pupil, a deeper insight into physiology than he could be expected to possess; that he should, therefore, omit experiment, while, on the other hand, he might, in the vegetable kingdom, find a fruitful source of analogies, remote, it was true, in the more specific details of structure, but rising in

importance as he elevated himself to the more general conception of the laws of life and organisation. Nor should he omit the study of the more general laws of Nature comprised in natural philosophy. It was then shown that the dependence of pathology on morbid anatomy was precisely the same as that of physiology on healthy anatomy; that they, therefore, should be studied in connection. The lecturer then proceeded to develope the nature of this connection, and to point out the relative advantages of lectures and attendance in the clinical wards and in the dead-house. He next dwelt on the dependence of pathology, on physiology, and its subsidiary sciences, showing that this dependence was not indirect only, but immediate and reciprocal. This reciprocity was illustrated by cases of disease and the subjects of monstrosities. All that he had hitherto been considering was, however, but the means to the end which he had in view, namely, the prevention and cure of disease; but this implied a knowledge of its causes, or etiology. These causes of disease were to be looked for in the organised body, or the external agents; the former might be classed among the predisposing causes; the latter were comprehended in the vast field of external agents; too vast, indeed, to be cultivated by the physician alone, who, however, while he levied his contributions on every labourer in the field of science, might continue to receive, in the cultivation of his own portion of that field, the same assistance from subsidiary sciences which they had already rendered to physiology and pathology. The relation of these sub-sciences to etiology was again illustrated by examples. The lecturer then endeavoured to show that medicines were but relative agents, and that, in fact, we removed one disease by the substitution of another, which, however, we were able to control because we were in possession of its cause, which we could apply or withdraw at pleasure. But to know when to apply, and when to withdraw, we must possess a thorough knowledge of the sciences already spoken of. The more immediate relation of these to materia medica was then minutely illustrated. The lecturer now proceeded to the subject of special therapeutics and pathology, and took occasion to explain the origin and different meanings of the words special and general, as applied to pathology, and having noticed the subject of nosology, stated his reasons why he did not enter into distinct considerations of surgery and midwifery. The lecturer then explained the nature of forensic medicine and medical police, and regretting that time did not permit him to rectify any misapprehensions that might have arisen from the very general nature of the statement he had made, concluded, amid applause, by a short address to the pupils.

THE BOROUGH SCHOOLS.

No session ever commenced with less enthusiasm in the Borough, than the present. The gloss of "Guy's" and "St. Thomas's" has rubbed off since "Sir Astley" left, and the *prestige* of the remaining names has no charm for students. The fame of "the Borough" wants new painting. Its medical atmosphere is dull and gloomy; its glories have become flat, stale, and unprofitable. The yellow-red chariot of "BRANSBY" rolls languidly—though very punctually this week—and Mr. Key modestly walks. Mr. Travers is in yet more doleful eclipse than ever, and Dr. Williams' hands are now quite lost in his pockets. There is no bustle, no stir, nothing new. The old courses are to be re-delivered, and the students have found out the farce of "recognised" lectures. The routine of the schools is eternal, and no bright intellectual comet ever crosses their path to excite the eye and inform the mind. The hospitals may have fostered a host of ability among the pupils in the last few years, yet none of them remain, fraught with life, spirit, and intelligence, to advance medical science and impart the electric spark of knowledge to new comers; for none of the honours of the place are open to them, or can, under the present system, ever be theirs. In the lectures nothing new, in the style nothing original, in the manner of delivery nothing exciting. Ten years ago, Messrs. "BRANSBY," KEY, MORGAN, BRIGHT, ADDISON, TRAVERS, TYRRELL, WILLIAMS, and so on. Five years ago, "BRANSBY," TRAVERS, and Co. Last year the old company still there. Next year, still the ancient firm,—re-reading, or re-gabbling, the same old, vapid, sleepy stuff, to the end of the reign of King Harrison. Not a single new thing but the "fresh entries." What a stir in this dull quarter, would a concours for two or three chairs create! What life, what vigour, what interest in the medical world would be produced by the event. The highest honours for the best man! Learning, competency, and merit, in the field against nephews, noodles, and incapables. What a glorious day for medical science! How noble the example to the rest of the medical institutions! What a promising day for the students,—both now and hereafter,—the anxiety, the ambition, the present hope, the future expectation,—and, though last, not least, how great a day for *the patients!* Humdrum in the lecture-room, bungling in the operation theatre, neglect in the wards, incompetence too often where there was not neglect, all changed, all reformed! This is no Utopian thought. Has it never rustled through the head of King Harrison? Alas! to draw checks, to direct painters, to order fresh brooms and new dusters, this is all that occupies the mind of that intelligent man. For any achievments beyond these,

his Majesty has a capacity about equal, it may reasonably be supposed, to that of the pump which yields the water which keeps the courts and floors so sweet and clean.

At St. Thomas's they have a five-fold reason for adopting politic as well as wise measures, in administering affairs. We have known a thousand students in the Borough on the 1st of October. On Monday just fifty gentlemen attended the "introductory lecture" at St. Thomas's. About 250 attended that of Guy's.

Has Mr. GRAINGER never had in *his* mind a scheme of concours? Has he never thought of the extraordinary degree of fame which would invest his popular and well-adapted establishment, were he to throw open to competition the various chairs which exist beneath his rule in Webb-street? True, the demand upon him to adopt such a step cannot be urgently made. His school is strictly a private institution. It does not occupy the same position as the schools in the great medical charities of the metropolis. In them justice and right may demand the mental trial, for they are public in every iota of their condition; but Mr. GRAINGER's school fills as large a space, and as imposing an attitude, in the public eye, as those of the hospitals, and he seeks for public favour in the same terms.

Mr. GRAINGER delivered the introductory lecture in the morning, at the Webb-street School, to a large and applauding class; and Mr. PILCHER the first lecture to the anatomical class in the afternoon of Oct. 1st. Both productions, being chiefly historical, they claim from us no comment. Mr. Carpue used to call "introductory" lectures "flashes in the pan," and at once fell to work to show the students how he could *teach*,—for that, he thought, was what they wanted to know on such occasions. His plan was good, and as he proved his competency on the first day—the day of inquiry—he had always an overflowing class.

At St. Thomas's Mr. MACKMURDO gave the "introductory" lecture. It was not a very striking production, and had the disadvantage of being read instead of spoken. Released, occasionally, from the trammels of his manuscript, to explain something out of book, he discovered that he possessed the faculty of extemporaneous speaking in a very decent degree. In his advice respecting books, and plans of study, he did himself honour by speaking in the most liberal and complimentary terms of some of his contemporaries, not of St. Thomas's, especially with reference to the works of Mr. Grainger.

The introductory lecture at Guy's Hospital was a remarkable affair. To give a digest of the compiled portion is not compatible with our space, but it would be unjust to Mr. B. COOPER, not to announce him as the most admirable advertiser that ever hospital or school possessed. Nothing could exceed the kindness and extent of his eulogies of the whole establishment, from end to end. His colleagues were the best surgeons and physicians in the world; the lecturers, every one of them, were the most able and brilliant geniuses; the superintending mind which arranged, and the hand which set in motion, the vast machinery of this unparalleled institution, were not matchable in any other treasurer in the metropolis; Mr. Browell was the best steward that ever walked a court or looked into a stew-pan; and the nurses,—but we need detail no more. The zeal and *esprit du corps* of the lecturer could not be surpassed, and the students warmly applauded them to the echo, though they laughed unrestrainedly at the pardonable extravagance of the enthusiast.

CHARACTER OF THE EXAMINATIONS AT THE COLLEGE OF SURGEONS.

THE following passages occurred in an instructive lecture delivered on Oct. 2nd, by Mr. HENRY HANCOCK, at the Charing-Cross Hospital:—

"Gentlemen,—I have endeavoured to point out to you the true system to be pursued in your studies, that of acquiring a knowledge of the facts of anatomy by your own personal efforts in dissection, and afterwards digesting these facts into a consistent whole by patient reflection. The errors which the medical youth of this country have fallen into, in depending too much upon 'manuals,' 'dissecting guides,' and 'systems of anatomy,' instead of honestly earning knowledge for themselves, though due in a great measure to a natural love of indolence, is not so entirely. The present system of examination adopted at the College of Surgeons has had a great share in producing the evil. I regret to be obliged to make this statement in the presence of distinguished members of the Council, but I feel certain they will pardon me on the principle of 'amicus Plato sed magis amicus veritas.' The mode of questioning by the Court of Examiners affords no sure test of the competency of the candidate; any youth who has a sufficient memory for words to be able to learn 'The Dublin Dissector' by rote, will certainly obtain his diploma. Do not imagine this to be a random assertion; I say it advisedly, for I actually know *three* young men who passed their examination without ever having had a scalpel in their hands; one of them, especially, the night before he went up, could not, when so required by me, distinguish the femoral artery from the femoral vein; yet, positively, the person not only obtained his diploma, but was highly complimented by the President of the College for the great proficiency he had displayed. From what I have said I am sure you are already

prepared to admit the falsehood of the current adage 'That a man to be a good anatomist must learn and forget his anatomy seven times.' This is one of those impostor proverbs which, like counterfeit coins, has a rapid circulation until its truth be challenged; like the Brummagem shilling it only needs to be rung that its baseness may be discovered; at all events, the student who uses his right hand and his intellect in the way I have counselled, will not be deceived by it."

PROFESSOR GRAHAM'S INTRODUCTORY LECTURE.

We have been furnished with the original of Mr. Graham's lecture, the following extracts from which will show that our correspondent, who supplied the report of the opening lecture at University College, in our last number, had altogether misapprehended its scope and meaning. Mr. Graham contends that the first elements of scientific chemistry are not of older date than the middle of the last century, and adds,—

"This I say, although zealous cultivators of chemistry have assigned to their science a much earlier origin, and have, indeed, traced it back to the most remote antiquity. Tubal Cain, 'the instructor of every artificer in iron and brass' of the Scriptures, was, according to these authorities, the father of the science. Moses, also, they insist, gave a proof of great chemical knowledge in dissolving the calf of gold,—an operation which they have even attempted to explain on the theory of the sulphur salts!"

So that Mr. Graham, instead of embracing had discountenanced such speculations. The other circumstance adverted to by our correspondent was the remarkable discovery of Mr. Pattenson, of Newcastle, of a new mode of separating silver from the lead of commerce, by which a great annual saving is made to the country, and which was instanced by Mr. Graham as a great improvement in the chemical arts not suggested by theory. So far from being a history of the science, the lecture is occupied by defining and distinguishing chemistry from the collateral sciences; in showing how completely independant the chemical arts have been till a very late period in their progress of chemical theory; in developing the theoretical ideas which led to the great laws of chemical philosophy, and illustrating the character of the information which it has unfolded, by a review of the great discoveries to the Lavoisierian school. The style in which our correspondent transmitted the impressions which he received at Mr. Graham's opening lecture, was calculated to convey a false idea of the lecturer's qualifications as a chemist; our correspondent's remarks were directed rather against what he considered to be the injudicious object of the lecture, than against the professorial qualities of Mr. Graham, whose labours and discoveries as a chemist, entitle him to hold a distinguished rank amongst the cultivators of science.

THE LANCET.

London, Saturday, October 13, 1838.

To the incessant attendance upon lectures, as one of the greatest practical defects in the course of education through which medical students are driven by corporate rapacity, we have often directed attention. The student's time, in compliance with the irrational regulations of halls and colleges, is entirely engrossed by the lecture-room; from the first to the last day of the week, from morning till night, he that hath ears to hear, let him hear the eternal, unvarying Professorial organ grind, grind, grind, or dread the day when certificates of diligent attendance are granted. In the second winter session attendance on the following courses is enjoined:—

Anatomy.

Physiology.

Anatomical demonstrations in the dissecting-room.

Dissections.

Midwifery, and diseases of women and children.

Principles and practice of medicine.

Principles and practice of surgery.

Medical and surgical practice of an hospital.

In the first session the demands of the lecture-room are equally pressing, so that the student can hear, but neither read, mark, learn, nor inwardly digest, the doctrines disclosed to his mind, perhaps, for the first time. The quickest apprehension

can scarcely keep pace with the torrent; the mind is hurried on headlong, and every impression is indistinct, transitory, confused. After the lectures have been attended what time is there for practical chemistry, for experiments, for dissecting, for clinical observation, for examination of the pathological changes after death, for the cultivation of the eyes and hands, of the constructive and reasoning faculties, or of anything but the ears and the passive memory? The educational legislators seem to imagine that the student is all ear—all memory,—or nothing but LOCKE's blank sheet of paper, for lecturers to blot, and blurr, and write upon.

Far be it from us to maintain, as some have done with the enthusiast STAHL, that the medical student should abjure the physical sciences—that he should rashly enter upon the study of the human organisation, and its intricate laws, or dare to interfere with its movements, without a preliminary acquaintance with the laws of Nature. Without an elementary knowledge of mathematics, natural philosophy, and chemistry, what can he understand of physiology? A vague notion of the natural functions of the body, and a few high sounding words, such as life, vitality, irritability, sensibility, and other sounds, substitutes for sense, can lead to little. Destitute of an intimate acquaintance with the physical and chemical actions of the agents by which the patient is surrounded—of the drugs and remedial agents at his command—of the structure and properties of the organisation, and of the *laws of disease*, nothing but a blind empiricism can direct his practice. Unhappy the patients that fall in such a man's way! Whenever a symptom out of the routine occurs he has no resources. He cannot promote the science to which his services are devoted; he has neither instruments nor materials at his command. This is not the day to talk of reducing the qualifications of medical men to a minimum, although some would, no doubt, rejoice to see general practitioners halt in the glorious career upon which they have entered, and restrict their acquirements to the mechanical pestle-and-mortar medicine of past ages.

The student only wants more time and liberty; his studies are restricted within narrow limits, and that is huddled into two or three years, which young men of good natural capacity and industry can only master in a much longer period. The avarice of the monopolists absorbs the capital which should be devoted to extended education, and exhausts the thrifty, anxious parent's purse, so that at the end of two or three years young men are driven from the schools by sheer necessity, ready to fall victims to Boards of Guardians, and to perpetrate, for bread, the atrocities which the New Poor-Law system has revealed.

A teacher of medicine should be well paid; he should be paid in the exact ratio of his services, as this is the only way to secure a body of well-qualified labourers in the field. And if, as we maintain should be the case, no certificates and no attendance were rendered imperative, every professor would be at perfect liberty to demand what fee he pleased, and to set his own price on his labour, just as the student would be able to accept or reject the proffered instruction, after comparing it with other means of education in the market. When courses of lectures are rendered imperative the ground of the question is changed; the student is compelled by the Colleges to purchase, and so long as this system is perpetuated the student should be protected by a scale of charges. If the Colleges compel the student to pay for lectures, they are bound in honesty and fairness to see that the charge is reasonable. This may be illustrated by what took place lately in Parliament; an Act compelled insolvent debtors to insert an advertisement in the public journals, and at the same time provided that the newspaper proprietors should only charge a determined sum; this was unjust, as the price specified was considerably below the real value; but the House of Commons hesitated to alter the law till means could be found to protect insolvents from

extortion. Yet the Councils of the Colleges of Surgeons have been permitted to render attendance upon their own lectures imperative, and to charge what price they pleased for the article; the medical student has had no protection against their extortions. They made certificates the only legal tender, and affixed a high arbitrary value to those worthless pieces of paper.

At present we propose to make an observation or two upon the exorbitant charges for hospital attendance. We take the charges at St. Bartholomew's Hospital as an illustration. That institution is supported by accumulated property, and by subscription: yet for visiting its wards, and walking round with the physicians 18 months, and with the surgeons 12 months, the student is compelled to pay £43! For what is the enormous fee of FORTY-THREE POUNDS paid? The greater part is clearly for seeing the patients, as the value attached by the medical officers themselves to their lectures, is not a fourth of the sum. The fees for the medical and surgical lectures together amount to £10 10s.; and if we allow this sum for the clinical instruction, £32 10s. will be left as the amount extorted for the examination and inspection of the patients. The medical officers expose their suffering fellow-creatures to public view for money: unlike the owners of some inanimate museums, they do not throw the doors liberally open to the scientific spectator but insist on a heavy passing fee; while they have not even had the merit of founding the asylums of helpless humanity which they thus throw remorselessly into the crucible of their insatiable cupidity. If the medical officers of the public hospitals had to support the patients, and the expenses of the establishments, their present fees would be justifiable: the students' fees at University College are legitimately devoted to this object; and as the capital sunk on the building, and the entire expenditure of the other hospitals, are provided by public charity, and public money, it is only by nefarious rapacity that the hospital surgeons and physicians extract more than a fair fee for clinical instruction from the student's pocket. The fee for attendance upon the clinical lectures should not exceed £5; instead of paying 70 guineas, as at St. George's Hospital, the student should pay 7 guineas, and no charge should be made in the institutions supported by public charity, for visiting and examining the patients. The money saved in this way would enable the student to prolong the period of his studies; and the public, who uphold the charities, would reap the benefit in being attended by more skilful and better educated advisers.

Instead of making the offices of dresser, of house-surgeon, of apothecary, of surgeon, and of physician, the rewards of merit, and temptations to exertion in the cause of science, the mercenary officers sell several of these places. Any gentleman who may desire to dress patients at St. Bartholomew's Hospital during 12 months, must pay 50 guineas for the appointment, in addition to the 15 guineas for attending the medical practice. At Guy's and St. Thomas's Hospitals, the fee is equally enormous; and these are not hospitals erected, like University College Hospital, by a proprietary body, as a commercial speculation, but the ancient venerable charities of the land, dedicated by its Christian citizens to the service of humanity and science. In these temples of the poor the money-changers have raised their stalls.

How differently these matters are managed in France, a country which England has led, and ought to lead, in the conduct of social and political institutions. There the student of every country has access on the easiest terms, either without any payment at all, or by taking out inscriptions of 30 francs every three months to the lectures. Then the dresser—the *interne*—has not to purchase his place from trading officers, but obtains it by *Concours*, and is paid a salary, a solid mead of approbation. Englishmen—to the eternal honour of our rivals—have frequently obtained the appointments of *interne*, while we look in vain for the counterpart of this liberality in the London Hospitals. Neither Frenchman nor Englishman can enter the

portals of the London Hospitals without finding the unhallowed fingers of the physicians and surgeons diving deeply into his pockets.

There is some hope of redemption from this state of degradation. The students have the remedy in their own hands, and we recommend them, as sincere friends, to resort to its use calmly. Let them petition the Governors to afford gratuitous admission to all hospitals supported by charity, expressing, at the same time, a readiness to pay the medical officers handsomely for clinical instruction. The Medical Associations should also remonstrate with their hospital brethren, and adjure them to abandon their predatory habits, which make the medical profession in England appear contemptible in the eyes of the world. If none of these means prove effectual, Parliament may interfere. Admit that 1000 pupils enter to hospital practice yearly, at £42 each, then the total sum assessed on the students must amount to £42,000 annually. Now, £10,500 will pay for the clinical instruction, leaving £31,500 to be devoted to education, and a saving of half the sum would justify the Legislature's interference.

It is plausibly said, that the medical men are not paid for their attendance on the hospitals, and that this justifies the heavy fees which they take from the student. But why are they not paid regular salaries for their attendance, or fees regulated by the time and frequency of the attendances? The patients would not then be neglected, and there would be no pretext—it is but a pretext—for one of the greatest impositions recorded in the history of medicine.

From the indiscreet remarks of the medical officers of the Westminster Hospital, we should imagine that, instead of feeling a humane gratification at the strict and impartial inquiry which is to be made, on behalf of the unfortunate patients, into the proceedings of Sir Anthony Carlisle, the intention of the Governors has excited in hem the greatest anger, and given birth to their unqualified reproaches. At a meeting of the medical officers, which has been held since the resolution of the Governors, reported at page 129 of this week's Lancet, was passed, it was decided that the Governors should be privately assailed with the artillery, either of cajolement or deprecation, to induce them to abandon the inquiry forthwith. Mr. Anthony White, since the decision of the Board, has unceremoniously charged the Governors with a breach of faith, for passing any resolution on the subject of Thomas Holmes, after he (Mr. White) had "undertaken to speak to Sir "Anthony privately, and persuade him, in "a year or two, to accept the office of con-"sulting surgeon!" And he declares that he shall certainly adopt some means that will hush up the affair! The medical officers intend to plead that Sir Anthony *only committed an error in judgment* when he mistook traumatic delirium for confirmed insanity. "Such inquiries," they say "into the con-"duct of hospital surgeons, will never do." The precedent might, indeed, prove unfortunate for some of these gentlemen, but it will be established, nevertheless. As for appointing Sir Anthony to the office of "consulting surgeon," the time has passed for performing even that farce. Twelve months ago he might, unfortunately, have succeeded in inflicting himself on the hospital under that unwarrantable title, but the attempt now is, happily, not only "too bad," but too late. The Governors will do their duty effectually, though, in receiving the public thanks, they obtain them minus those of their alarmed and dissatisfied servants, the medical officers.

WESTMINSTER HOSPITAL.

COMMITTEE OF INQUIRY INTO THE TREATMENT OF THOMAS HOLMES BY SIR A. CARLISLE.

Tuesday, October 19.—After the ordinary business of the Board was transacted, Mr. Green in the Chair,

Mr. Cheese stated to the Committee, that having perused, in three successive Numbers of The Lancet, a very strongly-defined

charge against Sir Anthony Carlisle, for improper treatment of a patient in the hospital, he felt that it was his imperative duty to call the attention of the Governors to the matter; and he thought the most regular way of mooting the subject would be, for him to propose "that a meeting of "the House-Committee be appointed to in-"quire into the treatment adopted by the "Senior Surgeon, in the case of Thomas "Holmes."

Mr. HARRISON objected to the House-Committee having the consideration of the charge, and suggested, that as THE LANCET had challenged the attention of the "Governors" in general, the affair should be referred to a general meeting of the Governors.

The CHAIRMAN thought that in a matter of so much importance as an accusation against the Senior Surgeon of maltreating a patient, the most formal and scrupulous mode of proceeding should be adopted.

Mr. BICKNELL was of opinion, that as an important document relating to the subject, namely, the certificate of Sir Anthony, directed to the Committee, and recommending the removal of Holmes to a madhouse, was in the possession of the House-Committee, that body would form the most proper inquest.

Mr. RUTHERFORD ALCOCK concurred in opinion with Mr. Bicknell, especially as in the regular course of affairs the subject would ultimately come before the Governors at large.

Mr. J. C. WOOD would like to hear the opinion of the medical officers on the case; he objected to taking the statements of any periodical work as data for accusing an officer of the institution, while the Committee had means of obtaining evidence in its own power, and the conduct of the Senior Surgeon ought to be tried upon such evidence. He was of opinion, further, that the Governors of the Hospital ought to proceed with the greatest delicacy towards Sir Anthony, in consideration of the long services of that officer. Sir Anthony's benefits to the hospital had been great, though so also were the benefits of the hospital to Sir Anthony; but gentlemen should recollect, that they had duties, as Governors, to perform, which were paramount to considerations of private feelings. In his character of House-Visitor he had walked through the wards of the institution and conversed with Thomas Holmes, who, it appeared to him, was as sane as any man in Westminster. He could not forget, either, that two years ago a servant of his, Mills by name, had expired under the care of Sir Anthony Carlisle, and the impression on his mind had always been, that the man died from neglect. He saw, also, that between 30 and 40 patients were admitted under the care of Sir Anthony, and he thought the Committee ought to inquire why the patients were not seen regularly by Sir Anthony himself; why they were regularly handed down to the care of Mr. White, who had his own patients to attend; and why Sir Anthony had left a written order that the Assistant-Surgeon should not attend his patients. The care of the poor was, in his opinion, the first object of the charity, and all considerations which were inconsistent with that end ought to give way. He was, therefore, for a searching inquiry, and considered that it should, in the first instance, be instituted by the House-Committee.

Mr. BICKNELL stated, by way of reply to Mr. Wood, that he had certainly seen the patient on one day as mad, to all appearance, as any maniac in Bedlam. However, he did not pretend to say that he was a competent judge of the nature of the mental affection.

In a general conversation, in which Mr. Alcock, Mr. Lynn, Mr. Harrison, Mr. Wood, Mr. Green, Mr. Cheese, and two of the physicians, took part, the said two physicians intimated their opinion that it was a very *nice* point indeed to distinguish between delirium tremens and insanity.

Mr. HARRISON declared that it was Sir Anthony's wish that the strictest investigation should be set on foot of all the circumstances of the case. It finally was moved by Mr. WOOD, seconded by Mr. CHEESE, and unanimously resolved by the Committee,

"That the interest of the hospital requires, that a particular inquiry into the case of Thomas Holmes, and concerning the Certificate of Sir Anthony Carlisle, dated 28th August, ult., be entered into at a Special Meeting of the House-Committee, to be held on Friday, the 19th instant, at one o'clock, P.M."

MEDICAL SOCIETY OF LONDON.

Monday, Sept. 24, 1838.

Mr. Bryant, President.

VARIETIES OF "CLUB-FOOT,"—THEIR PATHOLOGY, AND TREATMENT BY DIVISION OF THE TENDO ACHILLIS, OR BY MECHANICAL APPARATUS.

A paper was read by Dr. Little, on the above subject, but as we have already published the principal facts embraced in it, we shall give but a brief analysis of its contents:—Having dwelt on the diagnosis and forms of this affection, Dr. Little expressed an opinion, derived from an examination of a large number of preparations or dissections examined or made by him, in Berlin and London, that talipes equinus is accompanied by no very great deviation from the natural form and arrangement of the bones of the tarsus, as the whole foot is merely held extended by the contraction of the muscles upon the posterior aspect of the leg. The alteration in the position of the bones of talipes varus is more complicated than in talipes equinus, as not only the tibio-tarsal articular surfaces of the astragalus are exposed upon the back of the foot, through the elevation of the heel, as in talipes equinus, but the os naviculare being drawn inwards and upwards by the posterior, and sometimes by the anterior, tibial muscles, takes with it the cuboid, cuneiform, and metatarsal bones, producing considerable deformity of the tarsus, leaving the round head of the astragalus exposed upon the dorsum pedis.

In the infantile cases of valgus the author found that the astragalus was twisted in such a manner that the articular face, which should be applied against the inside of the internal malleolus, did not enter into the composition of the ankle-joint, but was turned downwards; the navicular bone and calcaneum followed the astragalus, and, together with the internal malleolus, would have touched the ground by their internal surfaces, had the feet belonged to subjects who could have walked. As to the causes of club-foot, the author considered that the deformities included in the term talipes, depended upon non-mechanical but dynamic contraction of muscles of the leg and foot, whether congenital or not; and this might be divided into two classes, according as they are accompanied by paralysis, or by tonic contraction of muscles. The remote cause, in all cases, acts through the centres of the nervous system, or resides within them. All those forms of deformity produced by paralysis, and some of those resulting from spasm, depend upon some derangement of the brain or spinal cord itself. The remaining causes illustrate the reflex function of the spinal cord, as in these the spasm of the muscles arises from disturbance in the chylopoietic viscera acting *viâ* the spinal cord.

Having taken a view of some analogous deformities, and pointed out the means of cure commonly employed, the author described the operation of dividing the tendo Achillis, and showed that the reason of the safety of dividing so large a tendon was explained by the fact that no inflammation follows the infliction of so small a wound as is necessary for the division of that tendon or tendons.

Dr. Little stated that he had had under his care seventy-one cases of contractures of the ankle and knee-joints, treated by division of various tendons, amongst which there was no instance of the puncture not uniting immediately by adhesion. This result he attributed to the smallness of the wound, and to the non-disturbance of the healing process by precipitate attempts to straighten the limb, two important points to be attended to in the Stromeyerian method of curing contracted limbs.

No discussion followed the reading of the paper, the time of the Society having nearly expired. Dr. Little promised, at the next meeting, to bring several patients on whom the operation had been successfully performed.

Monday, October 1, 1838.

Dr. Little stated, this evening, that he had found a great reluctance on the part of some of the patients he had intended to have brought to the Society, to exhibit themselves, he had, therefore, not pressed them to come. He should be happy, however, to show any of the patients, at his own house, to those desirous of seeing them.

Mr. Crisp inquired what was the earliest age at which it was advisable to perform the operation. A little patient, three months old, now under his care, with inverted foot, would, he considered, be cured by the operation.

Dr. Little considered that the most favourable time for the operation was at the period when the child was just commencing to walk. The patient then, when the limb was properly adjusted by apparatus, could throw the whole weight of its body on the affected member, which would materially facilitate the cure. If the operation were delayed long after the commencement of walking, the deformity increased, as did also the difficulties of treatment.

Dr. Johnson, who was in the chair, called the attention of the Society to a remedy which had been lately made the subject of a separate publication, and consisted in a

NEW MODE OF COUNTER-IRRITATION,

which had been proposed by Dr. Granville in his lately-published work. It was curious that although Dr. Granville had related, in the work in question, about one hundred

cases in which the remedy had been applied, he had quite neglected to state what the remedy itself was! In reading, however, carefully over the physiological effects which were described as attending its application, he (Dr. J.) had been able to detect that it was nothing more than *strong liquid ammonia*, such as the chemists sell for filling smelling-bottles. He had, during the last two months, applied it in a variety of cases, chiefly of a neuralgic character, with the most decided benefit. Dr. Granville recommended it to be applied by means of a handkerchief, which was to be covered over by a towel, to prevent too strong an effluvium passing off. He (Dr. J.) had, however, adopted a much better mode of proceeding, and this consisted in the employment of the lid of a large wooden pill-box, in the inside of which two or three pieces of lint were fixed in such a way as not to protrude beyond the rim of the lid. The lint was saturated with the ammonia, which was prevented from escaping in any way. The sensible effects on the patient consisted, during the first half-minute, in a feeling as though "a piece of ice was being applied;" during another half-minute the part became "tingling and hot;" and, at the expiration of another minute, it felt like "a coal of fire, and tingled dreadfully." On removing the application, at the end of two and a half, or three minutes, beyond which period he had never found it necessary to apply it, the part was found to be exceedingly red, and, in ten minutes after, was covered with a crop of minute vesicles. Some of these vesicles broke; others become absorbed; and, in the space of an hour and a half, the patient experienced no unpleasant feeling, or inconvenience, from the remedy. No dressing of any kind was required. In a shorter or longer application of the remedy, all the effects, from that of simple reddening of the part, to the formation of an eschar, could be produced. He considered the application of this counter-irritant would be highly useful in cases of sudden retrocession of gout, or in the metastasis of rheumatism to internal organs, or in cases of neuralgia. He had employed it in forty or fifty cases, during the last two months; and, in some cases of neuralgia, the pain had not returned at the expiration of weeks. Dr. Granville acknowledges the ammonia to be the agent which he employs.

Mr. Dendy felt obliged to Dr. Johnson for his communication, but after all, it conveyed nothing new; other counter-irritants produced like effects, the linimentum ammoniæ, for instance. Counter-irritation was one of the most satisfactory of remedial means. The substitution of a new evil for an old one, such, for example, as the use of a blister in a case of gout, was most acceptable to the patient, who bore the new evil, though the pain might be much more acute, with greater patience than he did the pain which had harassed him so long. He considered the application recommended by Dr. Granville had no advantage over the common mustard plaster, which he had known to produce relief in a few minutes, in various cases. He did not understand the advantage or utility of Dr. Granville having kept the agent a secret.

Dr. Johnson considered the application had decided advantages over the common mustard plaster, which generally required half-an-hour to produce redness, and, if kept on beyond that time, produced anything but agreeable effects. The smell of the mustard, too, was often exceedingly repugnant, when it was applied on or near the face, whereas the ammonia, by means of the box, might be applied without any inconvenience to any part of the face.

Mr. Crisp admitted the superiority of the ammonia over mustard, which was also so much adulterated that its application often produced no effects. He had employed the acetum lyttæ, with a fine camel's-hair brush, and in children complete vesication took place in the course of ten or fifteen minutes.

Dr. Johnson had frequently applied the acetum lyttæ. In adults it always required at least half-an-hour before vesication was produced, and even then the effects were not similar to those of the ammonia; indeed, he had found no counter-irritant so sudden and so strong in its effects as the latter preparation.

Mr. Dendy would admit that in cases of neuralgia the ammonia might be most effective. It would never supersede, however, those counter-irritants which were necessary to be applied in inflammatory and other diseases, for the purpose of producing a profuse discharge of serum, as this remedy could not be borne long enough to effect such a result. While speaking of counter-irritants he might mention that great mistakes were committed respecting the application of blisters to children. When he first became connected with the Infirmary for Children, he found that the name of a blister frightened the mother of the child, who looked upon it as a death-warrant, and this had arisen from the gross error having been committed of keeping on a blister for 24 or even 30 hours. He seldom allowed a blister to remain on a child more than four hours; two hours, indeed, were often sufficient. There was often no apparent effect then, but in a few hours vesication ensued, and that much more decided than if the blister had been kept on during the whole time. With this precaution he had never seen a blister followed by a scar, and the parents of the patients now had no objection to the application.

Mr. Clifton always took off a blister when vesication was produced, he considered it absurd to keep it on longer.

VACCINATION, SMALL-POX, VARIOLOID DISEASE.

Mr. Leese, in answer to a question, stated that during the late spring and summer he had seen a great number of cases of small-pox after vaccination. His inquiry into the cause of this had tended to confirm a theory which he had long entertained on the subject. He considered that some people were much more susceptible of small-pox than others; and that "a certain quantity of vaccination" was necessary to produce permanent safety. He was strongly of belief that one or two vesicles would often fail to produce the required security. Those who had the greatest tendency to small-pox required the greatest amount of vaccination. He had seen many cases of small-pox after vaccination, where there were only one, two, or three cicatrices, but he had never known an instance where six marks were present, followed by small-pox. For the last twenty years, while treating gratuitous patients, he had always made three punctures in each arm; if four or five of these rose he was satisfied, if only one, two, or three rose, he vaccinated again on the fifth day. In private practice he made the punctures in one arm, at first, and at the end of four or five days, as many in the other arm; by this means the symptomatic fever was kept up longer, and more protection afforded. Jenner was satisfied with one puncture in each arm; if one rose, that was sufficient. This was the common plan many years ago, and hence the reason of so many adult persons having suffered from varioloid disease.

Mr. Clifton always used Bryce's test, which he thought was the only safe one.

Mr. Linacre inquired if any member had seen a case of secondary small-pox, in which the person bore the marks of the first attack.

Mr. Dendy had seen three such cases, two of which ended fatally. He considered, with respect to vaccination, that it was *intensity*, not *quantity*, which was requisite for the safety of the patient. It did not matter how few the punctures, or vesicles, provided a sufficient amount of constitutional effect was produced. Nothing that had been advanced against vaccination, had, in his opinion, shaken its efficacy; 95 out of every 100 vaccinated persons were safe, and in those five the varioloid disease was exceedingly mild.

Mr. Leese only meant, by stating that a certain number of vesicles were necessary, that they produced a greater constitutional effect. He had never seen a case of small-pox where six marks were present. He had known a fatal case of secondary small-pox in a patient who was well marked with the former attack.

Dr. T. Thomson had lately attended a case of varioloid disease occurring in a boy who had six or eight marks from vaccination.

UNIVERSITY COLLEGE HOSPITAL.

INJURY OF THE SPINE IN THE CERVICAL REGION.

H. H., aged 38, was admitted Sept. 15th, under the care of Mr. Cooper. While engaged in a deep excavation at the terminus of the London and Birmingham Railway, about seven hundred-weight of earth fell upon him from a height. The mass struck him upon the back of his neck, and knocked him down with great violence, and buried him underneath.

When he was admitted into the hospital, the lower limbs were paralysed, as were also the arms from the elbow downwards. The sensation of the surface at times appeared to be almost suspended, while at other times he could feel, though very indistinctly. There is some tumefaction over the lower part of the cervical region of the spine, and he complains much if handled or pressed upon. No crepitus or irregularity can be discovered; he is cold and depressed; deglutition and speech are slightly affected. He does not appear to distend his chest except by the abdominal muscles. The bladder is paralysed; the urine is drawn off, and if care is not taken to prevent it, by pressing upon the bladder from above, the air will rush along the catheter into the bladder.

Sept. 16. He was bled to eight ounces, and became faintish. Pulse 80; surface warm. A dose of calomel, followed by a senna draught, was given. In the evening the medicine acted, and the fæces have come away involuntarily. Mucus accumulates in the air passages, producing difficult respiration. Cough, which appears to be confined to the larynx.

17. Pulse 68, soft; twelve leeches to the back of the neck, followed by fomentations, &c.

18. Leeches again.

28. Is getting weaker; wanders in his intellect at night. Pulse 68; fæces pass involuntarily; urine requires to be drawn off. As the bladder was much distended the opportunity of examining it by the rectum, was taken. It was not difficult to distinguish it, large and tense, behind the base of the prostate gland.

In the spot where one would insert the trocar in puncture of the bladder by the rectum, a small hard body is felt. With the finger of one hand in the rectum, and patting with the other hand upon the hypogastric region, the fluctuation can be felt across the pelvis. The bladder forms a large, round, hard mass in the hypogastric region.

The man died on the following day.

Sectio cadaveris.

Abdomen.—The peritoneum and all the viscera, except the bladder, were healthy; the muscular coat of the bladder was very

thick and strong; the mucous coat was very vascular; a large and thick coating of coagulable lymph was effused upon its internal surface; this was easily scraped off in some places, though it was more adherent in others. The surface of the internal lining membrane of the bladder was thus affected; but the vascularity and the thickness of the new membrane were greatest near the trigonum.

Thorax.—The first bone of the sternum was fractured transversely; the separation of the broken edges was greatest internally, for the periosteum, externally, was unbroken, nor was there the slighest evidence, externally, by which this injury could have been diagnosticated during life, or, indeed, without having opened the chest. There was effusion of blood, from the torn vessels under the seat of the fracture, into the cellular tissue of the mediastinum; the right lung was much inflamed, and presented, in many points, the two periods of hepatisation, red and gray. These portions, when isolated from the rest, sunk in water.

Cervical region.—On cutting the soft parts over the processes of the vertebræ, a large quantity of extravasated blood was found in the cellular tissue and between the muscles of the neck; spinous processes and arches of the fifth vertebra were broken, as was also one of the transverse processes of the fifth. Though these fragments were loose, they did not appear to press much upon the cord; the body of the fifth was completely broken across and comminuted; a small quantity of blood was effused upon the exterior of the dura mater of the spinal cord; the spinal cord appeared dilated and softened opposite the fracture. On laying open the medulla spinalis at this point, a large coagulum of blood was found in the centre of the nervous pulp, which had commenced to be formed into pus; round this extravasation the white substance of the cord appeared unaltered for some thickness.

FRACTURE OF THE TIBIA WITHOUT DEFORMITY.

A boy came to the hospital on the 25th of September for advice. He stated that yesterday, while at play, he fell, and injured his right leg, after which he could not walk. His friends brought him to the hospital this morning. There is no deformity of the leg, but he complains of great pain about the junction of the upper and middle third of the tibia. On handling the limb pretty roughly, a very distinct crepitus is sensible at this point. The fibula is entire. The boy was taken in on account of his poor circumstances, and the leg put up in pasteboard.

DISEASE OF THE METACARPAL PHALANGEAL ARTICULATION—AMPUTATION.

S. B., aged 28, was admitted August 31, under the care of Mr. Liston. Six weeks ago, in boxing, he struck his knuckles against the teeth of his opponent. The part became painful, swollen, and inflamed. An abscess formed over the joint and also in the palm of the hand; another formed on the dorsum of the carpus. These were opened and poultices applied. At present the joint is open to the probe, which discovers diseased bone. There is also a sensible crepitation on moving the articular surfaces. Mr. Liston determined on removing the diseased parts, which he did in the theatre.

He carried the bistoury slowly round the joint in an oval figure, then dissected with one or two strokes of the knife between the bones, and then carried the knife underneath, keeping the edge of it close to the bone; he then cut across the bone with a small sized pair of forceps. The bone was much softened, and cut readily. No ligature was required. A fold of lint, dipped in cold water, was put to the wound, the hand and arm were placed upon an inclined plane and occasionally bathed with cold water. In the evening all oozing had ceased. The cold water dressings to be continued.

Sept. 6. Doing very well, a piece of lint still allowed to remain.

10. Going on favourably. Mr. Liston recommends the fingers not to be drawn together, excepting by such force as the cicatrisation of the wound can effect.

20. A small spicula of bone has come away from the hand. The wound is nearly healed.

Oct. 1. Nearly fit to leave the hospital.

BRITISH MEDICAL ASSOCIATION,

October 9, 1838.

The minutes of the last Council meeting were read and confirmed.

The following gentlemen have, since the last Council meeting, been admitted members of the Association:—

—— Arpthorpe, Esq.

Dr. J. Scott, Strand.

A. Cocke, Esq., Cleveland-street, Fitzroy-square.

Jno. King, Esq., Portland-terrace, Regent's-park.

Wm. Hy. Carey, Esq., Woodford, Essex.

Dr. Geo. Taylor, Kingston, Surrey.

Dr. R. D. Thomson, 20, Gower-street, Bedford-square.

A letter was read from Mr. Massey, of Nottingham, confirmatory of the formation of a Branch Association for the town, county, and adjoining counties, which already numbers 21 members.

A letter was also read from the Glasgow Medical Association, through their Secretary, Mr. Mackie, who, after stating that Dr. Webster's reply had been laid before the Council of the Glasgow Medical Association on the 8th ult., says,—"I beg, at the

same time, to intimate the unqualified satisfaction derived from its perusal;" and, continues he, "To your inquiries, whether we have other objects in view besides medical reform, I shall merely quote the objects stated in the first circular, by which our Association was convened; and though several motions have, since then, been made to engraft scientific and literary purposes upon those mentioned, yet the general voice has been opposed to such measures, and our aims may still, in a succinct manner, be summed up in the following quotation:—'The Glasgow Medical Association shall have for its *general* object to procure a regular and uniform system of medical government, and an equalisation of the privileges of medical practitioners throughout the empire; and shall have for its *peculiar* object to cultivate such a union among the unincorporated medical practitioners in Glasgow and its neighbourhood, as may insure to them unanimity and concerted action, against all local obstacles to their professional respectability.'" Then, after giving a few of their laws, Mr. Mackie proceeds:—"The government of our Association may be generally inferred from this sample of its laws, but I may inform you that so urgent appear the evils of the present modes of medical government, or so catholic are the principles of our Association, that those who never unite for the obtaining of other public measures, admirably harmonise in furtherance of our present objects, as may be readily understood, when you learn that persons of all political parties compose the membership of our Association." And, lastly, the letter continues to say:—"At our first meeting we mean to appoint a Committee for devising some measure of medical reform,—but, for the completion of such a scheme, and in order that it be well digested; that it embrace all the points necessary in such a measure; that it be adapted to all parts of the empire; that the real wants of the profession be thoroughly understood, and adequately provided for, I know no means so likely as by a convention of delegates from all parts of the three kingdoms. A medical reform bill must be a measure comprehensive, and well pondered; and to enable all committees to comprehend the proper scope and tendency of such a measure, and the precise course in which their labours should be directed, the hitherto unpublished evidence, taken by Mr. Warburton's Committee, should be early called for."

Letters were also read from Professor Maunsell, of Dublin, and Dr. Cowan, of Reading; the latter in reference to quackery and its abuses.

The election of officers for the ensuing year was then proceeded with.

Resolved unanimously,—"That Dr. Webster be re-elected to the office of President for the ensuing year, being the second year of his election to that office."

The following gentlemen were then elected, by ballot, to fill the offices of Vice-Presidents for the ensuing year.

Dr. Marshall Hall.
Dr. A. B. Granville.
R. Davidson, Esq.
George Pilcher, Esq.
M. W. Hilles, Esq.
James Howell, Esq.

Resolved unanimously,—"That the other officers be re-elected."

The Council having taken steps for giving publicity to the annual Oration on Medical Reform, as delivered by Dr. A. B. Granville, at the last Anniversary Meeting of the Association, adjourned.

M. F. WAGSTAFFE, } Hon. Secs.
C. H. ROGERS HARRISSON, }

SUPPRESSION OF QUACKERY.

DR. COWAN has addressed a letter in reply to the letter of Dr. Webster on this subject, in which he states, that "the short outline which he was intending to propose on behalf of the Provincial Association, involved the principal measures contemplated by the BRITISH MEDICAL ASSOCIATION, including the condition of *registering* the profession, which, if cautiously and strictly done, would save much trouble in legal proceedings." Dr. Cowan added, "I do not wholly coincide in your opinion, that it would be impolitic to make any separate demands for particular abuses, believing that the question of non-medical empiricism is of so distinct a nature that it may be safely and successfully attacked *per se*, and far more speedily suppressed than if made an item of any plan of general and radical reform. That the latter is much wanted no enlightened man can doubt, but I do not think you will ever obtain it except by degrees, and that introducing any comprehensive measure at once, will involve such serious opposing interests that little will be effected. On this principle I have not attempted to interfere expressly with chemists and druggists, not wishing to agitate the question of professional reform in connection with quackery; and I hope on the perusal of the statements I have put forth that the BRITISH MEDICAL ASSOCIATION will be able to act in concert with the provincial members generally. The objections you mention as commonly urged by medical men against legislative interference, were precisely the same I have myself encountered, and I have endeavoured to reply to them to the best of my power. I feel confident that Government has no important revenue interest in the question. The whole profits from stamps, patents, advertisements, and wrappers, certainly do not exceed £50,000 annually.

The data are unexceptionable and are detailed. With regard to cordial co-operation, it would give me very sincere pleasure to see both Associations pursuing, hand in hand, any measures which involved the public welfare and professional immunities.

(Signed) "CHARLES COWAN."

SPERMATIC ANIMALCULÆ OF PLANTS.

M. MEYER, of Berlin, has recently communicated to the Academy of Sciences the results of his microscopic observations, which demonstrate the existence of spermatic animalculæ in animals. In the year 1836 M. Meyer had mistaken the globules enclosed in the cells of the *chara vulgaris*, for spermatic animalculæ, but he has since discovered that these globules were nothing more than mucilaginous cells in which the animalcule is formed. When completely detached, and placed in water, the small extremity of the animalcule, which is two or three times longer than the thick end, becomes anterior, and the whole body appears like a thread of mucilage, the movements of which are excessively rapid and curious. M. Meyer has examined the animalculæ of several species of moss, and promises to communicate the results of his further investigations.—*Gaz. Med. de Paris.*

LITHOTRITY IN A CHILD.

IT has been asserted, upon high surgical authority in this country, that the operation of lithotrity is not applicable to cases of urinary calculus occurring in the child. The experience of some of the French surgeons is completely opposed to this doctrine.

M. Segalas lately presented to the Royal Academy of Medicine a boy nearly five years of age, whom he had operated on with success for vesical calculus. This child was weakly and affected with rickets, and did not appear to be more than two and a half, or three years of age. He was the oldest child amongst ten, upon M. Segalas had, as yet, operated. The calculus, in this case, was a large one, being an inch and a quarter in diameter. Twelve sittings were required to break it up, and on three different occasions fragments of the stone become arrested in the bladder. Notwithstanding these unfavourable circumstances, the boy was completely cured, and in the interval of the sittings was able to run about and play with his companions. On the whole, M. Segalas declares, as the result of his experience, that whenever the instrument can penetrate to the foreign body, the operation of lithotrity, like that of lithotomy, presents the more chance of success in proportion to the youth of the patient. — *Gazette Med. de Paris.*

PRIZE RELATIVE TO VACCINATION

AMONGST the notices of the prizes proposed by the Academy of Sciences for the encouragement of medicine, we find one announcing that a prize of 10,000 francs (£400) will be awarded in the year 1842, to the best memoir on the following questions:—

Is the preservative power of the vaccine virus permanent, or is it only temporary?

In the latter case determine, by precise experiments and by authentic facts, the time during which its preservative power continues.

Has the matter of cow-pock, taken from the cow, greater efficacy than the vaccine virus which has been transmitted through several individuals?

Supposing it to be proved that the efficacy of the vaccine virus is diminished by transmission, should it be renewed, and by what means?

What is the relation between the intensity of the local phenomena, and the preservative power of the vaccine virus?

Is revaccination necessary, and if so, point out at what period revaccination should be practised?

The amount of the prize proposed by the Academy of Sciences is worthy of the important subject of competition, and does credit to the liberality of that learned body. When will those who labour for the advancement of medical science receive equal encouragement in this country? Were we to judge from the late proceedings at Newcastle, we should say after the "Greek Calends."

RELIEF OF THE SICK POOR.—CORONER'S INQUEST.

To the Editor of THE LANCET.

SIR:—The following accident occurred at Warminster, on Thursday, 20th of August last:—

John King, the police constable of Warminster, in attempting to stop a restive and frighted horse, by shutting the turnpike-gate, was knocked down, and died about two hours after. I attended him from the time of the accident until the time of his death, and was particular in noting down such circumstances as I expected to be questioned on at the coroner's inquest, which inquest was held on the following Saturday, by Mr. Adye, coroner, who, in his address to the jury, said,—"Gentlemen, this accident happened in open day, and was witnessed by one person here present; it is, therefore, plain the man came by his death accidentally, and I do not see the necessity to call for evidence of the medical man who

attended him; if you think otherwise, I will summon him," or words to this effect. The jury, finding the coroner satisfied on this point, did not request my attendance. Now, if I had attended the inquest, and given my evidence, which I thought, and have since learnt from some of the gentlemen of the jury, would have been satisfactory, I should have been legally entitled to one guinea, which I should have considered a remuneration for my labour, anxiety, time, and medicine; but, as the case now stands, King being a pauper, and I not being the district surgeon, I suppose I have no legal claim. I did, however, send in a charge of one guinea to the Board of Guardians, who, I think it right to add, acknowledged that the claim was *just*, and passed the account on to the overseers for payment, if *they* (the overseers) should think proper; but these latter gentlemen, in the exercise of their "tender mercies," awarded me only half a guinea! which one of them, this day, paid me, stating at the same time that they considered this sufficient, because I sometimes attended a midwifery case for that sum!! Now, Sir, if medical evidence be not necessary in cases of death occurring after accidents "in open day, and witnessed by one person only," I should much like to know what necessity there was, in the above case, for having a coroner's inquest at all, and whether the coroner's services, with their attendant expenses, might not, in such cases, be dispensed with. I should also like to know whether I am right in the supposition, that I have *no legal claim* on the Board of Guardians, or overseers, for remuneration in such cases, where it is impossible to obtain an *immediate* order from them in a case of such emergency, or whether the patient must wait (or die) until an order must first be obtained from the relieving officer, and then sent to the district surgeon, who may be from home. I am, Sir, your constant reader,

JOHN HOARE, Surgeon.

Warminster, Sept. 22, 1838.

NOTE FROM DR. LYNCH.

To the Editor of THE LANCET.

SIR:—I should esteem it a great favour if you would allow me to state that I am not the person alluded to in your notice to correspondents of last week, and that I have never directly or indirectly countenanced, recommended, written, or lectured in favour of Morison or his nostrums. I have the honour to be your obedient servant,

J. R. LYNCH, M.D., M.R.C.S.L.,
Medical Officer of the West-London Union.

King-street, Snow-hill,
Oct. 2, 1838.

WESTMINSTER HOSPITAL.—A Committee of Governors was formed on Tuesday last, at the instance of Mr. LYNN, to report on the fitness of a suite of rooms, on a basement of that building, as places for a library, a reading-room for students, and a museum.

CORRESPONDENTS.

The writer of the letter from Willesden has mistaken the meaning of the words "more adequate." Entire inadequacy was not implied. As to the causes, we only estimated them from the result, and may be wrong in the supposition.

The intentions of *S. S. P.* are creditable to his feelings, but his anonymous statement and appeal would be very useless in print. If the parties themselves are anxious to be brought up for judgment, they should move the Court to that effect. As for mitigation of punishment, the proper and only rational course is to address the Secretary of State. To discuss the points of law at this moment would be a profitless occupation of space.

An Inquirer. Smoking is a practice which we do not recommend, and cannot admire; but as to ulceration of the stomach having been caused by smoking cigars in the manner stated, it is all fudge. It might as well be said that water-drinking was the cause of dropsy.

Juvenis will find the information which he requires in the first volume of THE LANCET for 1831-2.

The letters of *Mr. Ellis* have been received.

We have to thank our correspondent for the report of the proceedings at the Loughborough Union, but we fear that we must abridge it very considerably.

We are compelled, from the want of space, to defer until next week the communications of *Mr. Randolph*, and of several other gentlemen.

A Surgeon. As new facts arise, "new light" will be thrown on the proceedings of the Examiners. Our correspondent has not supplied any information or opinion which is not already before the profession, and it is not necessary, therefore, to publish his letter. He has revised his ancient impressions with propriety. An efficient remedy for the mischief will be found in a new Act of Parliament.

The errata mentioned by *Mr. Wigan* do not exist in his paper. We have in vain searched for the words, "importance, or impotence of medicine." Our correspondent labours under a delusion.